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A SYNOPSIS

CF THE SYMPTOMS OF

GOUT AT THE HEART;

ALSO

A FEW PRACTICAL REMARKS ON
EPILEPSY, NERVOUSNESS, AND OTHER KINDRED
DISEASES IN RELATION THERETO.

BY

ELDRIDGE SPRATT,
THE FOUNDER, DEAN, AND EIGHTEEN YEARS SENIOR PHYSICIAN TO THE
HOSPITAL FOR DISEASES OF THE HEART, MEMBER OF THE ETHNOLOGICAL AND ANTHROPOLOGICAL SOCIETIES, ETC.

"God, by the ordinary rules of nature, permits this continual circulation of human things."

Twelfth Edition.

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TO

Admiral Burney.

DEAR ADMIRAL,

While passing through all the vicissitudes and difficulties with which the Medical Staff have had to contend, in supporting the Hospital for Diseases of the Heart, you have always contributed a helping hand; and by acting as Chairman to the General Committee for so many years, a charity has been saved from the necessity of closing its doors to a class suffering from diseases, if not the most painful, certainly the most distressing to bear.

In Dedicating this Work to you, let me express the pleasure which I have in being permitted to offer a tribute of regard to so kind a benefactor.

I am, dear Admiral,
Yours faithfully,
ELDRIDGE SPRATT.

18, BERNERS STREET, OXFORD STREET.

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INTRODUCTION.

Since the first publication of this work seventeen years ago, various cases worthy of record have been brought under my immediate notice; and as my former pamphlet passed through eleven editions, the publishers have encouraged me to resume the subject, by adding what in my fresh experience might be considered necessary to furnish a few practical ideas as to the principal causes of epilepsy, nervous, and other affections, which appear by the Registrar-General's report to be greatly increasing.

I was induced in the first instance to turn my attention to this speciality, from the vast mortality caused by heart disease and its approximate relations. And when we take into consideration that the death rate increases on an average at 40 per cent., my readers, professional or non-professional, will bear me out in regarding the subject as one of the utmost importance.

That it has long engaged my deep and earnest attention, is patent, from the fact of my having established an Hospital, having for its object the relief of the sick poor suffering from such affections.

Thus was founded, in 1857, the Institution known as "The Hospital for Diseases of the Heart."

There were at first many difficulties to contend with. Special hospitals just at that time were the subjects of considerable doubt as to their utility, not only in a professional, but in a public point of view; but time has satisfactorily established the principle as a sound one; and the result is, that since that date several institutions of a character somewhat similar, and offering cognate benefits, have been established, and liberally supported: such as that for Epileptic patients in Queen Square, and another for Nervousness.

Also the asylum at Northampton has been founded, and is conducted on a principle suggested in one of my previous works, viz.: with a staff of a Lay Committee and working Patrons.

The public.who were at first opposed to special hospitals, now subscribe towards their support; and with regard to the profession, many eminent members, together with the junior branches and students, attend such establishments regularly.

It is somewhat mortifying that the object of the charity in which I am specially interested has been misunderstood; and thus it has not been favoured with such a liberal amount of contributions as some of the others.

In 1857 a brief prospectus was issued, urging the necessity of supporting such a charity; and it was illustrated by a recital of several very interesting cases appertaining to the subject; such as somnambulism, epilepsy, paralysis, unhealthy urinary deposits, &c. Several of these cases were again referred to by the late Dr. James Wardrop, in the last edition of his work, and authors of an earlier date now recognize some of the principles as being in relation to Diseases of the Heart.

My old friend seeing the importance of a new field being opened for the treatment of such cases, joined the medical staff of the hospital.

It would seem as if, from want of a nucleus for practice, there is no reliable data from which the profession can draw conclusions as to the principal causes; still, some strong theoretical ideas begin now to be promulgated.

As time and experience advanced, our ideas were strengthened by the conviction that there are still many other diseases to which flesh is heir, that may be related to the circulatory system, viz., flatulency, hysteria, indigestion, rigors, and several pulmonary affections, which will be hereafter recognized as generated by a disordered state of the blood, just as in cases of mental delusions arising from suppressed catamenia, gout and rheumatism may serve as the *point d'appui* for the student to draw his principal diagnosis.

In conclusion, I may say that the writings of various authors lately, show that there are advanced views among the profession on this subject, and though they may differ on many points it is a sincere satisfaction to me to find that the establishment of the hospital to which my best energies are devoted, has been the means of developing fresh ideas as to the treatment of this important point.

"—— Fools into the notion fall,
That vice or virtue there is none at all;
Ask your own *hearts*, and nothing is so plain,
'Tis to *mistake* them costs the time and pain.

OPENING CHAPTER.

DIAGNOSTIC SIGNS OF CARDIAC DISEASE ARISING FROM GOUT OR RHEUMATIC DIATHESIS.

Drs. Laennec, Hope, Watson, Stokes, Corrigan, Scodd, besides many other able authors, have amply detailed the numerous advantages that may be derived from auscultation, palpation, and percussion, as a means of detecting cardiac and chest affections.

The same means that are usually ap plied for the diagnosis of cardiac disease *per se*, are available also in these cases.

The following short synopsis refers to a few special symptoms when they are in combination with the rheumatic and gouty diathesis.

The physiology of the circulation and nervous system, also the diagram of the heart to indicate its proportions and locality, will materially aid the student in the perusal of the following pages.

Gouty Signs.

No. I. DIGESTIVE. — 1. Acidity. 2. Flatulence. 3. Morbid appetite. 4. Pain in precordial region.

II. TONGUE. — 1. Bulk and form changed; 2. The impression of the teeth to assume a concave form; 3. The edges or the whole of a dull white hue; 4. The centre covered with a brown fur.

III.—PORTAL AND BILIARY SYSTEM. —1. Hemorrhoidal Flux; 2. Bile diminished in quantity, or unhealthy in quality; 3. Disordered alvine evacuations.

IV. URINE.—Deposits of urates of sodæ or phosphate of lime.

V. PHYSIQUE. — 1. Eyes glassy; 2. Bloodshot; 3. The sterotic tinged with yellow; 4. Nodulated finger joints; 5. Stiffness of other small joints.

VI. PAINS.—1. Pains in limbs; 2. Transitory; 3. Fixed or latent; 4. Feeling of fulness or distention in region of heart; 5. Palpitation; 6. Hereditary predisposition.

Rheumatic Signs.

VII. TONGUE.—Usually clean.

VIII. SKIN.—1. Moist, but not unfrequently giving an offensive odour; 2. Pulmonary exhalations, generally accompanied with an acid smell.

IX. PAIN.—1. Acute pain in cardiac nerves; 2. Sinking sensations without pain; 3. Pain extending from cardiac region to left shoulder, arm, or fingers; 4. General nervous symptoms; 5. Occasionally, extreme dislike to some particular object; 6. Difficulty of inspiration and expiration; 7. Intermittent pulse, accompanied with pain in the chest; 8. Antecedent history; 9. Traces of rheumatism in the extremities; 10. Urine, increased flow from rheumatism in the nervo-cardiac system.

Epileptic Signs.

X. NERVOUS AFFECTIONS. — 1. Eyes fixed; 2. Partially or wholly unconscious; 3. Hysterical; 4. Disposition to chest disturbances previous to an attack; 5. Atmospheric influence; 6. Gouty or rheumatic diathesis.

Paralytic Signs.

XI. Paralysis.—1. Examination of spinal cord; 2. The existence or not of cutaneous disease; 3. Pain in region of chest at an early period, extending to fingers of left hand, or partial loss of their use; 4. Suppression of the perspiration of the feet. Hereditary gout and rheumatism.

A LIST OF SOUNDS DETECTED IN AFFECTIONS OF THE HEART.

In valvular disease may be detected—

The bellows.
Sawing.
Filing.
Rasping.
Whistling.
Musical tone.
Cooing of a dove.
Mewing of a kitten.

Murmurs in the Arteries.

Fremissement cataire.
The purring tremour.
The arterial thrill.
The current-like motion (Corrigan.)

Venous Murmurs.

The simple.
Humming.
Whistling.
The noise of the devil (Bouillard.)
The humming-top sound.

A SYNOPSIS OF THE PHYSIOLOGY OF THE NERVO-CARDIAC SYSTEM.

To quote the words of a popular writer, Dr. Lardner. "The nervous system is the link between mind and matter: in all animals it connects instinct and intelligence with the organization, and in man especially the soul with the body. There is no part of the corporeal structure, whose empire is so general and so extensive, so essential is its supremacy that it involves the tenure of life itself. It is the recipient of impressions from without, and the messenger of dictates from within, and constitutes therefore the means by which the individual is placed in communication with the external world. Its development is the unerring measure of elevation in the scale of intelligence, and it is accordingly the organ by which the superiority of the human race over all the kingdoms of nature is manifested in the most striking manner." In an anthropological point of view its connection with the circulating system may materially assist in the development of the brain.

In man and in all animals the nervous system consists of two portions, but not independent of each other, called respectively the cerebro-spinal, and the sympathetic or ganglionic, this latter being sometimes known as the sympathetic nerve.

Carpenter. The cerebrum forms the largest portion of the brain; and presides more especially over the voluntary functions, and is the seat of the intelligence of man, and of his power over the voluntary actions, although it is impossible to assign to any particular part its precise office independently of those with which it is intimately connected.

Marshall. This portion of the brain is thought in some measure to influence the organs of locomotion, being intimately related to the anterior nerves of the spinal marrow. Hills.

The cerebellum, on the contrary, presides more over the functions of animal life, and over the sensitive powers, being continuous with the posterior pillars of the spinal marrow, and is supposed to exercise a special influence over the functions devoted to the re-production of the species. Valentine.

The medulla oblongata, although usually considered as a portion of the brain, is rather an intermediate structure between it and the spinal cord, being continuous with both—descending to form the latter, and ascending to expand into the cerebrum and cerebellum.

It presides principally over the respiratory and gastric functions.

From what has been said on this subject the reader is able to perceive the intimate connection between the circulatory and nervous systems, and is able to comprehend more clearly how any disturbance in either function reacts on the other, and thus may understand how a disease in the blood, such as gout or rheumatism, is able to excite a peculiar influence on the allied functions of the nervous system; and thus give rise to those collateral affections, hysteria, nervousness, epilepsy, &c., &c., so often attendant upon the uric acid diathesis.

By this brief explanation of the immediate utility exercised by the nervous system over animal life, it may be easily realized that—

The nerves bearing an important part in the heart's functions, they must be recognized as being of equal importance in the diagnosis, when the physician searches into every junction or plexus; or diverges thence to seek elsewhere for the basis or results of nervousness.

And further, the advisability is demonstrated of drawing the attention of the practitioner to the cardiac regions, as well as to those of the brain and the spine, in cases of nervous affections, as the connecting link may be traced to the heart, and thus the electric current, as it may be termed, may be translated from one nerve to another; so that it is only by examining the various nerves that the primary and productive influence can be traced. For the heart is, as to the brain, as influential as the brain is to the heart.

The cerebro-spinal system includes the brain and spinal cord, with the nerves proceeding from them, and the several ganglia, *seated upon these nerves*, forming part of the substance of the brain.

It includes all the nervous organs through which the functions of the mind are connected, such as sensation and **Kirk.** volition.

The sympathetic or ganglionic portion, which Bichat called the organic portion, **Marshall.** consists of a chain of ganglia which are little knitted masses of a pale gray colour, connected together by slender white cords, called nerves. They extend **Tu** from the cranium to the pelvis, along each side of the vertebral column. This **Mar** latter system chiefly presides over the circulation, respiration, digestion, &c.

When a number of these nerves and ganglia come together, they form a kind of net-work, which has the appellation of plexus, as the cardiac plexus, &c.

The Cerebro-spinal System.—The centre of this system is a soft mass of white and grey matter, and is contained in the skull and vertebral canal. It is called from its position, the cerebro-spinal axis. That within the skull is known as the encephalon, and that part in the vertebral canal is known as the spinal cord or spinal marrow.

The encephalon is divided into different parts, which differ in their forms, and substance, and functions, and are called, respectively, the cerebrum, the cerebellum, and the medulla oblongata. This nervous matter, composing the brain and spinal marrow, has, in addition to its bony case, three lining membranes, one within the other, called the "dura mater," the "arachnoid," and the "pia mater." Todd.

Structure of Nerves. — The nerves are constructed of minute fibres, or tubercles full of nervous matter, arranged in parallel or interlacing bundles, which are again connected with intervening fibres of cellular tissue in which the principal blood-vessels ramify. Kirk.

A layer of strong fibrous tissue also surrounds the whole nerve, and forms a sheath or neurilemma for it.

From the encephalon and the spinal cord all the nerves of the cerebro-spinal axis diverge. These nerves are on each side perfectly similar, for every nerve that issues from it to the right, there is a corresponding one identical to it proceeding to the same part of the body on the left.

The nerves of the brain and spine are in number forty-three pairs, and twelve pairs of these have their roots in the brain, and issue to the organs they preside over through orifices in the bony case of the skull. The twelve which issue from the brain are called the cranial, and the thirty-one which issue from the vertebral column are called the spinal. It is unnecessary to detail the utility of the whole of these nerves excepting those directly connected or appertaining to the subject of this work.

The nerves which supply the heart come from the Cardiac Plexuses, a part of which is superficial to the Pulmonary artery, a part beneath it.

The superficial Cardiac Plexus is below the arch of the aorta, and is joined by the left superficial Cardiac of the sympathetic, the lower Cardiac of the left vagus, and a group of nerves from the deep Cardiac Plexus.

The deep Cardiac Plexus is between the Trachea and arch of aorta. In it are the Cardiac nerves of the ganglia of sympathetic of both sides of neck, except the left superficial Cardiac of sympathetic, and the Cardiac branches of vagus nerves in neck and chest, except the lower Cardiac of the left vagus. Branches from these two Plexuses run along the Coronary arteries and supply the heart.

It is generally supposed that there is no direct communication between the fingers and the heart, except by a reflex action. Yet the nerve in the Diagram, see fig 3, points to a close communication, and may thus account for the numbness in incipient paralysis of the third finger when severe cardiac irritation is set up.

Mr. Venables informs me that the Ancients were acquainted with this motion—thus the wedding-ring was placed on that finger.

SYMPATHETIC SYSTEM.

Structure contrasted with that of Cerebro-Spinal System.

The Sympathetic System consists like the Cerebro-Spinal System of nerves and ganglia : the nerves of the former differ from those of the latter in being smaller, having apparently uniform contents, and wanting the outer white medullary substance : and lastly having a yellowish gray hue ; but these differences are not constant ; for there are nerves which exhibit intermediate characters, and we find both gray and white fibres in the sympathetic system, the former predominating. The ganglia of the sympathetic are constructed of fibres and cells. Of the fibres some run through the ganglia, some have their origin in them, and some appear to end in them ; the only apparent difference between the ganglia of the two systems being that the sympathetic contains more gray fibres, the cerebro-spinal, more white.

Relation of functions of the sympathetic nervous system with the cerebro-spinal system.

Functions of the Sympathetic.

The sympathetic system is not independent of, but functionally associated with the cerebro-spinal system, and at the same time possesses certain functions of its own. It presides more especially over the involuntary movements, secretions, and nutrition. About it are situated numerous ganglia which freely communicate one with the other, and with the ganglia on the cerebro-spinal system, hence impressions are easily communicated, whether by being transferred, diffused or reflected from one system to another, and to one part from another of the same system.

The sympathetic system presides over the viscera of the body and the vascular system : its finest branches constitute the vaso-motor nerves which supply the muscular coat of the arteries, and give to them their tonicity, which is increased by stimulating these nerves, and cut short by destroying them : the cerebro-spinal nerves preside over voluntary motion and sensation.

That the sympathetic is dependent upon the cerebro-spinal system to some extent is shown by irritating or dividing portions of the spinal cord which communicate with the sympathetic nerves supplying the heart, intestines, &c. Moreover the sympathetic derives a stimulus from the spinal cord, as shown by its occasionally being withdrawn, and as a result blushing, which is due to a partial cessation or diminution of the tonic contraction of the muscular walls of the small vessels, and hence an expansion and increase of arterial blood: as a contrary condition to this a livid paleness is produced due to increased stimulus to vaso-motor nerves, and therefore contraction, and less blood.

When the visceral nerves have a strong current passed through them, contraction of the abdominal walls takes place, which shows a Reflux act transmitted from one system to the other. If parts of the brain be irritated, movements in parts supplied by the sympathetic system will occur; and if parts of the cord be destroyed, corresponding parts of sympathetic also lose their power.

As an instance of sympathy between two similar parts of the body, Brown Séquard tells us, that he immersed one hand of a boy in cold water at about 35° which became reduced in temperature, and with it the other hand; whereas the remaining part of the body remained at its normal temperature. From the above connection between the two systems, it is easy to understand morbid derangements being transferred from any one part of the system to another.

FUNCTIONS OF THE NERVOUS SYSTEM.

Having now given an outline of the principal parts of the nervous system, we will proceed to consider their respective functions.

Sensibility.—The impression produced

by external physical agents upon the organs are received by the terminal parts of the nervous ramifications spread through these organs, and by a peculiar property of the nerves, they are carried to the seat of perception, viz., the brain. This property is termed sensibility ; and the feelings so transmitted are called sensations.

Perceptibility.—The faculty of the brain impressions, and the mental consciousness of such is termed perception.

Volition.—The brain is also the seat of will ; and the nerves have also the property of receiving impressions from the will, and conveying such impressions to the organ or member indicated by the will ; and therefore we find that there are nerves of sensation and nerves of motion, and they are generally found included in the same cord.

The Senses—Are divided into two classes ; special and general. The four special are only acted upon by peculiar physical agencies, as their name indicates. They are seeing, hearing, smelling, and tasting.

The general sense is that of touch, or as it is sometimes called, tactile sense. By this sense we perceive the qualities of shape, weight, texture, superficial conformation, softness and hardness, and temperature.

Reflex Action.—When speaking on the subject of the spinal cord, it was pointed out that a great number of the nerves that supplied the system sprung from the spinal column.

Kirk. Now some spring from the anterior, and some from the posterior; the former are exclusively motor, the latter sensitive; so that any injury or irritation to the posterior columns would affect the anterior columns, and so produce convulsions in the parts they supply. The motive nerves are called the afferent, and the sensitive the efferent. The combined action of these two qualities is termed the cyclomotory or reflex action of the spinal cord and medulla oblongata.

PHYSIOLOGY OF THE CIRCULATION IN RELATION TO THE NERVO-CURATIVE SYSTEM.

ALL organized beings possess as the principal source of their existence, a fluid circulating through every particle of their tissues. This fluid in man and animals is the blood; and in plants it is known as the sap. The blood is the source from which the constant waste and decay of our frames is replenished; and this function terminates only with death.

The tissues are wasted by action, whether physical or mental, and are nourished and restored by rest. To effect these conditions it is requisite that we should breathe, eat, drink, and sleep.

It constitutes the direct medium and vital stream for locomotion. It diverges off into streams and various rivulets, and thus takes the place of veins, and resembles other laws of nature, as the tides.

When the blood fails to circulate properly, or is not sufficiently arterialized, death occurs either at the lungs, heart, or brain: in the first case it is by asphyxia, the blood not being properly aërated; in the second from syncope, due, (1) anœmia, from a want of proper supply of blood to the heart; (2) asthenia from mechanical interference in its action and structural changes in its walls: in the third case by coma; *i.e.* insensibility; causing respiratory movements to cease.

In starvation, death is by a combination of anœmia and asthenia. The above three may be owing to imperfect supply of blood due to symptoms of syncope and asphyxial conditions.

There is the difference of life and death between the blood which enters, and the blood which leaves the lungs. The former is venous, and is charged with carbonic acid; the latter is arterial, and contains oxygen; it supports life, and circulates between the lungs and the capillaries.

We may describe the circulation as follows; the heart is a muscular organ with an involuntary action; it has four compartments; two auricles right and left; and two ventricles, also right and left. These latter form the greater portion of the organ.

The blood, after traversing the system, and being thereby deprived of its oxygen, &c., is brought back to the right auricle of the heart by the two venæ cavæ, the superior and inferior:

the superior conveying the venous blood of the upper part of the frame, and the inferior that of the lower. The two together represent the entire amount of all the veins of the body.

On discharging a portion of their contents, or venous blood, into the right auricle, it closes, and propels the blood into the right ventricle: the ventricle contracting sends it through the pulmonary artery to be distributed through the lungs and get oxygenized. It now becomes crimson or arterial, and returns by the pulmonary veins into the left auricle, and then into the left ventricle. From this it is sent into the aörta; and, by the ramifications of this vessel, through all parts of the frame; and is again brought back by the capillaries and venæ cavæ to the right auricle to be again converted into arterial blood.

The artery has a middle coat thicker than that coat of the veins. The coat of artery is more brittle than vein.

N.B. The heart's action is sufficient to return blood by the venæ canæ into the right auricle. It, in the main, gives the force, and this force is kept up—

(1) By the elastic walls of blood vessels which

take up the force when they are expanded by it, and give it back when they contract, therefore they are furtherers on of the force.

(2) By muscular contraction.

(3) By interchange going on between the Capillaries and the Tissues in process of nutrition.

(4) By valves.

(5) By gravitation.

Among other matters, the blood has two distinct kinds of corpuscules or discs, floating in it; viz., the red and the white. These red discs contain the hematine, or colouring matter of the blood, and they perform the important function of absorbing oxygen; so that when the blood comes in contact with the atmosphere in the lungs it draws in this gas, which, in its turn, expels its enemy, viz., carbonic acid, which venous blood contains. The blood is altered from arterial to venous in the systemic capillaries; for in them the hematine yields up the oxygen of the arteries, and returns to the heart charged with carbonic acid.

COMPOSITION OF THE BLOOD.

When healthy blood is drawn from the body, it becomes in a short time a gelatinous mass;

and this is formed of two distinct bodies, the crasamentum and the serum. The former is commonly known as the clot, which falls to the bottom. This originates in the contraction of the fibrine which holds the *red* corpuscules in its meshes.

The serum floats on the top, and is of a pale yellowish colour. It is known as the liquor sanguinis, minus the fibrine, and is composed of a watery solution of albumen, containing many important substances. It is the material which nourishes and renovates all parts of the system, and from which blood cells are created.

When the blood is examined under the microscope, it is observed to consist of numerous corpuscules or discs, the red and the colourless; the former greatly predominating. A red corpuscule in the human subject is a cell of about 1-3500th of an inch in diameter: it is biconcave disc in shape, and is about 1-1200th in thickness. It contains a substance called hematine, which contains a large amount of iron. The colourless cells are about 1-1200th of an inch in diameter.

Their component parts are not yet decided upon, but they play an important part in disease.

COMPOSITION OF BLOOD.

There is—

Water		780
Oxygen Carbonic acid Nitrogen	Dissolved in fluid.	
Cell membrane Hematine	Red Corpuscles	131
Fibrine		2.5
Albumen		70
Salts Phos. sodæ, lim. iron Sulph. potass. Chlor. sodium, potass Silica		6
Fats Margarine Oleine Seroline Chlosterine		1.2
Phosphuretted fats		
Extractive matters		5.3

The manner in which the blood obtains nourishment for the system is this. The food having been converted in the stomach into chyme, is again converted in the Duodenum into a fluid called chyle, and is then taken up in two ways.

(1) The absorption by the blood-vessels, which are eager to take up all kinds of materials.

(2) The absorption by a set of vessels called the lacteals or lymphatics which absorb rather the fatty portions of the chyle. These lymphatics commence by minute branches, "Lymphatic Capillaries" in the organs, and Tissues of nearly every portion of the body and end in two trunks which open into the subclavian vein at its junction with the int. jugular.

The lymphatics at their commencement in lacunar spaces, &c., receive the liquor sanguinis and substances that have performed use in economy yet are not entirely excrementitious; and convey them to be mixed with absorbents from the intestines; together with which by the law of assimilation are converted into the various matters, blood corpuscules, &c., that constitutes the frame.

DESCRIPTION OF PLATE.

PLATE shows the heart surrounded by the Pericardium, in the position and proximate proportion to the size of the chest.

The following numbers correspond to those of the Plate, and indicate the following :—

1. The Upper Cervical Nerves.
2. Nerve to the Pericardium.
3. Branch from the Lower Cervical Nerves, a part of which anastomoses with the Phrenic, a part with the Nerve of the Pericardium, and hence an intimate connection between the Nerves of the Heart and the Brachial Plexus.
4. Communicating Nerve from the Pericardian to the Phrenic.
5. The Phrenic on both sides.
6. Shows the division of the Phrenic into branches for the Diaphragm.
7. The Trunk of Phrenic about to enter the Diaphragm.
8. Branches of Phrenic which communicate with branches of the Pneumogastric.
9. The Brachial Plexus.
10. The Musculo Cutaneous Nerve.
11. Outer Trunk of the Median Nerve separated from the inner trunk by the axillary artery.
12. The Median Nerve.
13. The Internal Cutaneous Nerve.
14. The Inferior Scapular Nerve.
15. Nerve to the Serrâtus Magnus.

P. The Pericardium.

A. The Phenic Nerve on both sides.

B. Group of Ganglions, forming the Solar Plexus.

GOUT AT THE HEART.

CHAPTER I.

THE SYMPTOMS AND NATURE OF GOUT.

Its Nature and Origin—Name whence derived—Known to the Ancients—Specific Symptoms—Caused by Mental Irritation.—Other Exciting Causes—Nature of, and Comparative Degrees of, Pain — Beneficial Effects of Vegetable Diet—Four Different Phases—Pathology—Dr. Garrod.—Dr. Barclay.

Of all the ills that man is liable to there is not one that has called forth the attention of physicians, both ancient and modern, more than Gout, and its twin brother Rheumatism; nor has any complaint caused such controversy even up to the present date, as to its cause or origin, and practical treatment.

The subject is rendered more complicated by having two phases: being regarded by professionals in a scientific point of view, and by non-professionals as a matter relating to the stomach and pocket.

Nature and origin.

Where there is income, and the stomach demands indulgence, we may depend upon it that gout is in pretty close attendance : as for instance in the case of a patient who has indications of gout generating in his system, and at the same time experiences an irresistible morbid appetite for luxuries. He will, if his pocket permit him, most assuredly indulge that longing, though at the same time he is conscious that his gratification will result in a sharp attack of gout.

Name whence derived.

The name "gout" has been supposed to have its origin in the French word "goutte ;" but this is very doubtful, though it is just possible that the French might be disposed to insinuate that "gouttes" (*i.e.* drops) taken in too large quantities, might cause this complaint. The fact is, it originates by the generation of some morbid inaction, and foreign secretions in the blood and system, exhibiting a determination to some particular part.

It is a disease which was well known to the ancients, even so far back as the Arabian dynasty; and both Galen and Hippocrates have alluded to it.

Known to the ancients.

It is characterized by a specific pain, accompanied by redness and swelling in the feet and hands, but especially in the former, and in the great toe in particular, though frequently the pain may extend over the whole foot. It is usually ushered in by some hepatic congestion, either in the shape of flatulency or gastric irritability.

Specific symptoms.

These symptoms may precede an attack of gout for some time without the patient ever suspecting what might be likely to succeed; for though gout may be hurried on by some sudden emotion, it is seldom generated without a predisposition.

May be caused by

An extra amount of mental irritation may be indicated by the glacé or bloodshot eye. This irritation will lead an active-brained man to exert his mental powers more freely than usual; and I am inclined to believe that during this state of the system great extremes are attainable, either for good or evil—learning, writing, or dictation to the world.

mental irritation or other exciting causes.

It is the state or condition of the blood which governs man's will and determination.

ature of, nd comarative degrees of, ain.

As regards the pain; in comparing gout with rheumatism, Dr. Watson intimates that that of the latter is as if one of the joints were placed in a vice, which is screwed on it tightly; then give the screw an extra turn, and the pain of gout is realized. I presume that he is correct.

This disease is characterized by its paroxysmal nature, the severe twinges coming on generally about night-time. It also has its periodical visitations, having a tendency to make its appearance in spring and the beginning of that winter.

This phenomenon may be easily accounted for in various ways. The atmospheric influence of the seasons causes a change in the system, and as the heat alternates with cold, so do the animal and vegetable kingdom adapt themselves to the circumstances. When the changes are sudden the results are more severe; such being the case from heat to cold, the constituents of the stomach and blood are similarly sensitive.

When these changes occur some manifest themselves in inflammation or congestion, accompanied by painful swellings; but whatever form the symptoms may take they never occur without some primary material derangement of the blood or hepatic functions.

As an example it may be cited that a patient may be in a bad state of health, and change of air may be recommended. For the time being it is more than likely that it will upset the system, and even cause a temporary illness, until such time as the stomach and its concomitants have recovered their normal equilibrium; and your friend, after following his own dictation, will frequently remark that the change has done him more harm than good.

Grief and pleasure have a similar effect in thus disturbing the equilibrium; and gout may be generated or predisposed by this means, and end in some foreign accumulations, or a deficiency of the healthful constituents of the blood.

Indolence.

Indolence, and the neglect of muscular exertion, are the great allies and promoters of a morbid state of the flesh; ergo, if one branch of a family with such tendencies intermarries with another of similar habits, their offspring will be little "gouttes."

Intermarriage.

These living human sprouts may therefore be sown and reaped according to the flesh, constitution, or mind required.

There are hereditary healthy constitutions, as well as those which inherit weakness and disease; and this should be thoroughly understood by parties contemplating matrimony.

With regard to gout, the male sex is, for obvious reasons, much more liable than the weaker sex to its attacks. For instance, there is no relief to the impurities of the system; and it follows naturally that those who are corpulent and inactive are generally the first victims.

Hereditary tendency.

The visitation usually occurs at the ages of thirty-five to forty. If a patient suffers an attack at a more youthful period of life it might be presumed that there was a decided hereditary tendency.

Diagnostic signs.

The first grand point is the diagnosis to see that you are not mistaken as to the symptoms being gout. In ordinary cases the stomach is distended, the urine thick; a little flatulency, the eyes of a red or leaden hue, and sometimes slightly blood-shot, glassy, and irritable; the temper snappish, the skin of a yellow tint. There are appearances of the tongue which will be found very characteristic of gouty dyspepsia. Both its bulk and form are changed. Sometimes it becomes so large as to receive an impression of the teeth of the lower jaw, and instead of its being convex, it assumes a concave form. The peculiar changes of the colour of the tongue's surface are equally characteristic, the edges becoming of a dull white hue, whilst the central portion is usually covered with a dark-brown fur.

State of the tongue.

The connection of hæmorrhoidal flux with spontaneous evacuation of blood, may be also recognized as a symptom of the arthritic nature of the malady. A throbbing may be felt at the heart, and a sinking and oppressive sensation in the regions of the chest, and not unfrequently the heart will intermit and stop its action momentarily, probably every ninth or tenth pulsation, or less frequently, according to the state of the case. If accompanied with a white, furred, heavily loaded tongue, as a rule, you may say the symptoms are of a gouty nature, but if the tongue is perfectly clean, they may then arise from debility or assume the shape of a rheumatic diathesis.

Primary cause.

It has been intimated to me that heart disease is not a primary cause, but predisposed by some other complaint. It may be said of all other diseases of the same class. There would be no such thing as gout, without a cause, but the cause is the grand secret in every derangement of the body and mind; and if a patient know himself, and what symptoms are likely to transpire in case he is ill, it is half the battle in getting through life without sickness.

Generally speaking hereditary.

If one in the family has a tendency to gout, it may be traced in the successive branches. Thus, if this is known, is it not possible to guard against it?

Rheumatic Gout.

If the tongue should be clean; if there are none of the above symptoms, and there have been indications of slight rheumatic pains in the limbs or other parts; and the flesh is puffy, or tender in any of the limbs, and probably swollen, it may take the form of rheumatic gout. These symptoms may be translated from the limbs, and the patient will complain of a distressing suffocating feeling at the chest, and tenderness in the right hypochondriac region, throbbing and prostration, and excessively low spirits, that generally remain quiescent, not as in gout, when the mind is often irritable and passionate.

Symptoms.

A tenderness over the chest, a swelling under the left ribs, and the puffy nature of all these regions, will indicate, in some respects, to the practitioner, symptoms of rheumatic gout. It is in these cases that lime juice must not under any circumstances be administered, or any exhilarating, exciting tonics such as æther, ammonia, or iron. However weak the pulse may be, practical experience assures me such treatment is incorrect, and I

Stimulants not recommended.

feel it my duty to point out the mistake, as at the hospital scarcely a case comes before me without seeing some proof of the universal error; and it is a curious fact, as the new patients come, so you may feel sure they bring the same news as to what they have been in the habit of taking. If they are low-spirited, they resort to æther, ammonia, and stimulants; if the heart beats, the same old plaster; and so the disease is sometimes pulled up, or pulled down, until some kind friend recommends the patient "to be careful, live quietly, and trust to nature." So the poor creatures pass on through life. A patient thought she was better since she had been religiously inclined and more devout. This I quite believed; first of all the stimulants were left off, and secondly the mind had a powerful influence in tranquillizing the heart.

Among the causes which develop this complaint, whether their agency be immediate or remote, we must include the too free use of animal food, besides wines and fermented liquors; but at the same time it is only justice to remark that over-feeding will bring on gout quite as readily and of as painful a type, as over-indulgence in liquors. Moderation is the grand specific for the preservation of health; and though wine may be recommended by the medical adviser during certain stages of the treatment, it should not be an excuse for over-indulgence.

Effects of vegetable diet.

Vegetable diet does not produce the same urates and phosphates as animal food; and therefore the same secretions do not result from such a diet, as is detected in those of carnivorous animals.

Different phases.

Nosologists rule that this disease should be divided into four different phases, as thus: the regular, the atomic, the retrocedent, and the misplaced or shifting; but these forms are like the diversities of opinion and treatment, irregular and not unfrequently contradictory.

A paroxysm of regular gout will sometimes attack a person without any perceptible cause, and it may entirely disappear upon some extraordinary emotion being sustained. Of this various cases have been recorded; but under these particular circumstances it is in no respect different from any other malady where the influence of the mind will cause a complaint as well as effect a cure.

"Atomic gout" is a combination of all the sufferings that come under the head of dyspepsia and its concomitants, and when it assimilates in the gastric diathesis it is recognized under this term.

"Retrocedent gout" is understood to be more of a locomotive nature, for instead of remaining fixed in one locality, it translates itself to other parts, of vital or minor importance.

"Shifting gout," as it has been termed, instead of attacking the joints, generates in some remote internal part, where its diagnosis is less definite.

PATHOLOGY.

Pathology.

With regard to the pathology of gout, it may seem dogmatic in me to advance or insist on a new theory, especially as the medical world is as yet divided in opinion as to the hypotheses of Drs. Garrod and Barclay. With the highest respect for the abilities of the former, I feel inclined to agree with Dr. Barclay; inasmuch as I consider that the presence of uric acid in excess is not sufficient proof that it alone is the cause of gout.

But we will hear these authors speak for themselves.

Urea in relation to gout.

Dr. Garrod points out that, in health, only the merest traces of urea can be detected in the blood, and that only after great care and manipulation; but that in gout and albumenaria the quantity was in 1000 grs. of serum from 0.025 to 0.175 grs., which causes Dr. Tanner to remark, "that in uric acid we have found the actual 'materies morbi.'"

The amount of uric acid daily eliminated from the kidneys is about 8 grs.; and it is stated that "this poison may lie dormant in any tissue for a considerable time; but when the crystallization of the salt takes place in any tissue, inflammation is suddenly lighted up by its presence, and a paroxysm of gout ensues."

And he further asserts that the uric acid disappears from the urine of gouty people before an attack.

CHAPTER II.

RHEUMATISM.

Allied to Gout.—Usually divided into Three Classes.—Should be a Fourth Class.—Rheumatic Fever.—Its Fluctuations from Joint to Joint.—State of Patient's Skin.—Expression of Countenance.—State of the Blood, and Beneficial Effects from relieving it.—Chronic Rheumatism.—Opinions of Doctors Barclay and Garrod.—Essential Differences between Rheumatism and Gout Proper.

Allied to Gout.

GOUT, rheumatism, and rheumatic gout are so clearly allied that they may be rightly considered as belonging to the same family; for though the causes be distinct, they may produce the same results; and distinct results may be generated by the same causes.

Thus, a chill will produce rheumatism or gout, so will a derangement of the digestive system when overcharged with foreign agents.

Whatever uncertainty may be attributed to the pathology and cause of gout, there is much more as regards the cause and symptoms of rheumatism, and therefore the following observations shall convey something more than merely placing before the reader the most recent views upon this affection.

Usually divided into three classes.

This disease, like gout, has been divided into various classes according to the various views of different authors.

Should be a fourth class.

It would be well to adopt the most recent and most comprehensive division, viz., that of acute, muscular, and chronic. To these classes my experience suggests that a fourth may be added with great propriety, viz., "nervo-rheumatic," in which the nervous system alone appears to be affected.

Rheumatic fever.

An acute attack of rheumatism is known as rheumatic fever : it constitutes rheumatism, combined as it were with fever, accompanied by rigors followed by pain, swelling, and redness in some one or more of the joints.

There is a complete inability to move the part affected, which is acutely sensitive to the touch; the pain increasing in severity at night time, and becoming more intense when any degree of warmth is felt by the patient: in this latter particular, however, the disease materially differs from gout, which is relieved by the application of heat.

Fluctuation from joint to joint.

Another peculiarity of this complaint is its tendency suddenly to shift from joint to joint, or from one distant part to another, leaving that recently affected free from all pain; so that in some respects its translatory nature might be considered to resemble that of retrocedent gout; but it is more distinct in its operation, and leaves less trace in the part or joint from which it has shifted.

State of patient's skin.

The skin in rheumatism is generally in a moist perspiration; and when fever may be traced in conjunction, a peculiarly offensive acid odour with the secretions may be perceived.

Expression of countenance.

There is a marked expression of countenance in this disorder, quite distinct from that of other specific fevers: it exhibits extreme sallowness, and is devoid of that anxiety which is depicted in cases of typhus, &c.

Another striking peculiarity of this complaint is its tendency to attack serous and synovial membranes; and this is the reason why, in its metastasis, the heart and its congeners are so liable to be implicated.

Though the synovial membranes or joints may suffer in a high degree from inflammation in rheumatism, the result is never suppuration, as would be the case in gout.

State of the blood, and beneficial effects of relieving it.

The blood usually is altogether as poor, and as deficient in its constituents in rheumatism, as in gout it is overcharged.

We might be induced to imagine that the vital stream being too poor to sustain life, the heart yields to its dictation, and gives way for sustenance; and without this as a basis for theory, I cannot come to a decision. And yet leeches applied to the cardiac regions, though in cases accompanied by extreme debility, will undoubtedly produce most beneficial results when relieving that region from blood which impedes its action; though one would rather suppose that it was not sufficiently nourished by the blood itself.

The diagnosis on this point is of no mean importance; as in the treatment it becomes absolutely necessary to administer such drugs as are essential for the formation of blood.

No matter how great the effusion; as the attack declines it also rapidly disappears.

The pulse seldom exceeds 100 to 110. The tongue is generally clean, though in some cases feverish, and the skin emits a peculiar and sour odour that is a special characteristic of this complaint.

Chronic rheumatism.

Chronic rheumatism is by no means to be considered as a sequel to an acute attack as just described; for such an attack, when judiciously treated, may, and generally does, terminate its course quite completely without leaving any traces behind; but the former (*i.e.*, the chronic form) comes on so insidiously, and frequently continues for such a length of time, followed by such consequences, that this form of the complaint is that popularly understood as rheumatism proper—and so it is, being, in fact, rheumatism without fever.

The most prominent result of chronic rheumatism is a permanent stiffness of the joints: this arises from an extensive thickening of the membranes, and a peculiar ivory deposit.

This deposit has a great tendency to attach itself to the valves of the heart; and this peculiarity has caused some authors to assert that almost all cases of disease of the heart are attributable to previous attacks of rheumatism.

With regard to muscular rheumatism there is still much discord of opinion; some maintain that it is rheumatic gout, while others confound it with neuralgia. Barclay says—

Dr. Barclay —his opinions.

"The term 'rheumatic gout' has been used by systematic writers to include a form of disease in which the symptoms were not distinctly either rheumatic or gouty." He further says that this appellation "has not been unfrequently employed merely to cover the ignorance o the person using it, and to save him fr the necessity of stating whether th tient was suffering from one disease or the other."

He to this form of disease gives the name of "sub-acute rheumatism;" and he further says, that "it" (*i.e.*, muscular rheumatism) "is not hard to trace, and is only liable to be confounded with neuralgia."

Nevertheless, muscular rheumatism has its distinct symptoms, and, as its name implies, localities specially its own.

For instance, the disease popularly known as lumbago, is nothing more than rheumatism of the muscles of the lumber vertebræ; the hip also, and muscles of the thigh—which last is often treated for a distinct affection of the sciatic nerve.

PATHOLOGY.

Dr. Barclay says that "The pathology of rheumatism is still quite as obscure as that of gout; indeed, it may fairly be alleged that we know less of its causation, and are more uncertain of the manner in which its symptoms are brought about."

While Dr. Garrod designates lithic acid

Dr. Richardson.

as the cause of rheumatic gout, Dr. Richardson says—"Lactic acid has the power, when existing in the animal body in excess, of producing a class of symptoms attaching themselves mainly to the fibro-serous textures, and which, regarded in all points of view, are essentially the symptoms of acute rheumatic inflammation."

This conclusion he arrived at, after experimenting on animals by injecting lactic acid into the peritoneum, when he found considerable inflammation in the left cavities of the heart, &c.

Essential differences between rheumatism and gout proper.

That there is a marked distinction between gout and rheumatism cannot be denied, viz., that gout is predisposed by a primary derangement of the hepatic functions and digestive system; while rheumatism is more immediately associated with debility, as connected with damp and atmospheric changes; not improbably causing inflammation of some nerve or muscle. And the principal differential features are the locality, erratic tenden duration, age of sufferer attacked, an some assert, its chemical cause.

Rheumatism generally attacks some one of the large joints, but gout has an affinity for the small. Rheumatism, in an acute attack, runs its course in about six weeks, while gout is more tedious.

Rheumatism may present itself in the very young; but gout, though it is sometimes traced in children, does not usually appear before the ages of thirty-five or forty. Rheumatism is always liable to translate from joint to joint, and sometimes, especially in first attacks, to engage more than one joint at a time.

On the other hand, gout usually on its development attacks some one place, and terminates there; but if metastasis should occur, the stomach, and next to the stomach, the heart, are rival claimants for its dangerous occupancy.

The eye is a favourite seat for gout; and its bloodshot and glassy appearance fairly indicate the presence of arthritis. It is by no means unusual to find by this diagnosis that the same sanguineous impurities may be generating heart disease.

As I have previously stated, there seems to be a divided opinion as to the real source of these complaints; whether one is the result of uric acid, and the other of lithic or lactic acid, is not yet decided.

I have therefore cited the opinions of three eminent professional authors on the subject, that my readers may be enabled to judge the question by the best light that can be thrown upon it.

CHAPTER III.

GOUT AND RHEUMATISM IN RELATION TO SCIATICA AND NEURALGIA.

Rheumatic Diathesis—Result of—But no satisfactory Conclusion—Opinions of Sir J. Paget, Dr. Chapman, Mr. Skey—Nervous System dependent on Arterial and Venous Blood—Gouty Blood liable to cause Nervous Complaints corroborated by Dr. Fuller, Dr. Garrod—Cases of Sciatica—Probable Causes—Children of Gouty Parents liable to Neuralgia—Angina Pectoris.

Rheumatic diathesis, result of.

HAVING already given some idea of the nature of gout and rheumatism, we may now proceed to notice other maladies which may originate from a rheumatic diathesis, relating to the functional or organic derangements of the heart.

Neuralgia and sciatica have been the subject of much controversy among men of deep research and great scientific ability; but I consider that with regard to the origin or cause of these complaints nothing approaching a satisfactory solution has yet been arrived at.

Sir J. Paget's opinion.

We have the authority of that able surgeon, Sir James Paget, to this effect. He asserts—"Of the exact nature of this neuralgic state, indeed we know nothing."

Dr. Chapman's opinion.

And Dr. Chapman, in his exhaustive work on this affection, intimates that—"Having regard to these elements of the problem, what is the cause of neuralgia and its complications? I am bound to say that this problem has not yet received a satisfactory solution."

However it is not my object to treat this affection specifically, but only as a disease bearing on a particular subject, and as relating to gout and rheumatism.

For example, it is out of my pr [illegible]
to enter into cases of neuralgia [illegible]
decayed tooth may be the main [illegible]
where a sudden shock or fri [illegible]
the cause, or where son [illegible]
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Neuralgia or sciatica, *per se*, is an inflammation of some particular nerve or set of nerves supplying a given part, as the branches of a central trunk. They, like our arterial system, have also a species of circulation, and one common source—the brain.

Spine and cerebral centre.

The spine, which has its own peculiar functions to perform, is but a prolongation of the cerebral centre.

The nerves are divided into sensitive and motive, just as the circulatory system is divided into the venous and arterial; and, like that system, they form a complete circuit.

There is a striking peculiarity about the nervous system, viz., that the organic system of our life is supplied by what are called ganglions.

A ganglion is a small body similar in structure to the nervous centre from which the nerve itself arises—the spine or brain.

Nerves also form what is called a plexus—that is, the nerves of one part spread out, and mingle with those of another in a form of network, thus increasing the nervous influence of the locality where it occurs.

Life is divided into the animal or muscular system, and the organic—that is, the brain, heart, lungs, &c. Mr. Skey made some calculations on the relative quantity of blood supplied to the organic and animal portions of our frame. He says—"The quantity of blood so distributed is nearly equal, though rather the larger proportion supplies the structures of animal life." He also remarks—"The nerves we know are essentially different, animal life being spinal, and organic life ganglionic." "If we take the whole material of the body into calculation, the structures of organic life do not exceed one-tenth of the actual weight, yet they receive nearly one half of the whole quantity of blood.

Mr. Skey.

"The two lives," as they are termed by the great French physiologist, Bichat, are more or less independent of each other both in health and disease. The diseases of organic life are more serious, because they involve structures more directly essential to life itself, and the derangement of any one of them involves the whole system more thoroughly than would a similar amount of disease in the structures of animal life.

When we speak of a man's health in general, we refer instinctively to the functions of the interior of the body, or of the organs, not of the muscular system; we refer to the functions of the brain, to respiration, to circulation, to digestion, and to the assimilation of food, &c. &c.

Nervous system dependent on arterial.

Now, the nervous system has an intimate dependence on the arterial circulation, and vice versâ; what affects the one affects the other; but most especially any derangement in the circulating fluid is invariably attended by a nervous sympathy in one or more of its multifarious features.

I do not stand alone in this opinion. From practical experience, and watching the great discrepancies of opinion between some of the ablest intellects in the profession, I am confirmed in a theory as regarding the mechanical action of gout in disturbing the circulatory system of the nerves, which practically impressed itself upon me some eighteen years ago.

Gouty blood liable to cause nervous complaints.

It is, that as gout or rheumatism is acknowledged to be some foreign matter retained through the digestive system or generated from the blood, or from the secretions not having a healthy outlet; and as the blood commands such an influence on the nervous system,—is it not a reasonable and logical conclusion that gouty blood can be the source of a number of nervous diseases, from severe pain to paralysis; and that, whenever a branch or the twig of a nerve enters into relation with any portion of the human frame, all vitality connected therewith should be in some form influenced?

Dr. Fuller.

In this view I am borne out by the investigations of Dr. Fuller in p. 441 of his work on Rheumatism and Rheumatic Gout. "When rheumatism attacks the nerves or their fibrous envelopes, it causes pain, which follows the course of the nervous trunks, and extends along their several branches." Again: "The most remarkable, as also the most common, form of its attack is that known by the name of sciatica."

Dr. Garrod. Dr. Garrod, p. 513, intimates :—"Neuralgia is not an uncommon manifestation of gout, and may occur in various situations. Sometimes the branches of the fifth pair are implicated, and frequently the sciatic nerve. Local paralysis appears at times to depend on the existence of a gouty habit."

A case of facial paralysis, under my observation, disappeared on the occurrence of regular gout, the patient being afterwards subject to the ordinary forms of the disease.

Dr. Garrod further states : "In such instances it is a question if the neuralgia or paralysis is induced simply by the impure state of the blood, or whether a real inflammatory action is set up in the sheath of the nerves, or the fibrous coverings of the spinal cord."

Thus we see the belief established in the minds of these able men, that the action of gout in the circulation produces effects, and in fact diseases, that have hitherto been considered of a distinct order.

Dr. Garrod says further, p. 510: "During the progress of regular gout, more especially the chronic varieties, and sometimes without the previous development of articular disorder, symptoms *indicating irritation* of the *nervous* and *muscular systems*, and *clearly referable* to the *presence of a gouty diathesis*, are exhibited. These manifestations are generally of a functional character, but are sometimes dependent on inflammatory action, which appears, so far as can be ascertained, to be of the same nature as true gouty inflammation."

Case of Sciatica.

I may mention here an interesting case of sciatica which came under my notice. A patient had been suffering from severe sciatic pains, and had passed through the ordeal of various kinds of treatment—from ice-bags to the injection of morphia, and from galvanism down to homœopathic globules—without any material relief. When it was suggested that his house was situated on a clayey soil, and that a spring existed under his and his neighbours' houses, he changed his residence to a more healthy locality, and all symptoms of sciatica left him.

Peculiar case of sciatica.

A patient who suffered annoyance from profuse perspiration of the feet endeavoured to check the affection by the use of cold foot-baths. This gave rise to severe pains, which he traced up the sciatic nerve of the left leg, followed by an acute cutting pain at the heart.

Probable cause.

In Somersetshire, and I believe the practice is not unknown in other parts of Britain, men used to make a living, and perhaps they may do so now, by finding suitable places in the fields for digging wells—spots where they confidently asserted there was water. The discoverer would walk over the ground holding in his fingers of both hands a forked switch of hazel; and when this quivered and pointed downwards, it was supposed to indicate that water was under his feet. And to such an extent has this practice been successfully carried, that a gentleman, with whom I am intimately acquainted, after having paid away large sums of money in digging wells to no purpose, was surprised to learn that for the sum of ten pounds a man would guarantee to find water, and dig for him a serviceable well. This person traced the ground over with the assistance of his divining rod, found water, and dug the well for the money stated.

Now I have no hesitation in saying, that the damp cold spring under his feet had a powerful effect upon the nervous system of this man, and caused his hand to tremble—a common case enough; a strong superstitious belief in the efficacy of the charm may be thus explained, doubtlessly to the astonishment of our Somersetshire friends.

The following extracts may serve to give weight to the foregoing instances, and strengthen the theory promulgated.

Sir Benjamin Brodie remarks that, "In a great number of instances nervous pains are manifestly connected with a disposition to gout."

"Instances of the spinal cord being implicated by gout have occasionally been noticed, and a well-marked case has come under my own care."

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Peculiar case of sciatica.

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"There is, I apprehend, no source of neuralgia more fertile than that of gout; for, operating, as it does, as a degenerative influence on the vascular system, it is an extremely potent agent in effecting those irregularities of blood-supply in the nervous centres on which the origination and existence of neuralgia depend."

Children of gouty parents liable to sciatica or neuralgia.

"My observations lead me to believe that the children of gouty persons are more prone than their parents to neuralgia, and indeed that the whole sisterhood of nervous diseases originates very frequently from gout in the second generation."

Thus far I think I have adduced sufficient authority to establish the belief that gout and rheumatism are often the true source of neuralgia, for Dr. Bright remarks that, "Neuralgia is often considered a disease closely allied to rheumatism; and it appears to be so, as it frequently accompanies and often succeeds rheumatic attacks.

Supported by these opinions I am confirmed in the theory I have already promulgated, viz.: that as the blood becomes deteriorated whether by poison from without or the nucleus of disease from within, the result often is a disease set up in the system, the origin of which is never suspected.

And thus we see neuralgia together with a whole host of complaints allied to that affection, from simple irritation to most exaggerated forms of pain, as the result of gouty matter in the blood.

Angina pectoris.

While on the subject of neuralgia, it would be a serious omission to neglect a brief allusion to what is evidently a "nervo-rheumatic" affection of the heart, viz., angina pectoris.

Though this painful disease, as the term implies, may be generated apparently by merely physical causes, such as impeded digestion arising from overfeeding, undue exertion under unsuitable circumstances, &c., &c., yet it seldom exists unaccompanied by irritation or some affection of the heart of a "nervo-rheumatic" nature; but great grief or anxiety in the case of nervously susceptible females, or even males, may induce an acute attack, entirely apart from any physical causes.

Laenec.

But although such attacks, when serious, cause most excruciating pains in the cardiac regions—so that, to quote Laenec, "the patient feels as if iron nails or the claw of an animal tore asunder the anterior part of his chest"—it does not necessarily follow that there is any structural derangement of the heart; still it is more than probable that such attacks, continued, may and will render that organ morbidly susceptible of chronic irritation.

Sundry opinions as to cause.

Physicians have found this disease connected with different organic lesions or states, and each has supposed it to be occasioned by that with which he has most frequently found it to co-exist. Dr. Parry, and after him Burns and Kreysig, ascribe it to ossification of the coronary arteries; Dr. Hooper, to affections of the pericardium; Dr. Hosack, to plethora; Dr. Darwin, to asthmatic cramp of the diaphragm; Drs. Butler, Macqueen, and many others have regarded it as a particular species of gout. Dr. Latham has found it connected with enlargements of the abdominal viscera, while the thoracic viscera were sound; and Heberden, having found it both connected and unconnected with organic disease, thinks that its cause has not been traced out, but that it does not seem to originate necessarily in any structural derangement of the organ affected.

Symptoms. The usual symptoms are painful constriction of the chest, accompanied by a semi-paralytic affection of the arms and shoulders, more generally perceptible on the left side. A suffocating sensation also is a usual concomitant, compelling the patient, if in a recumbent position—as in bed—to rise immediately into a sitting posture.

In conclusion, one of our highest authorities on this subject may be quoted as insisting on the connection of this peculiar nervous complaint with the heart:—

Dr. Hope. "I have never," he says, "known the malady to exist *in an aggravated form*, one that has truly merited the name of angina, independent of some organic disease of the heart or its immediate appendages. Cases, it is true, are on record which appear to militate against this opinion; but as it is only of late years that the anatomical characters of hypertrophy, of dilation, and of softening have been clearly understood, the evidence of such cases must be admitted with reserve. To mention an instance:—A case of sudden death from angina, said to be independent of disease of the heart, was recently communicated to me; but from the statements of the parties present at the dissection, it was clear that there existed a marked dilation, which they had not recognized."

The reader, having been thus put in possession of the opinions of some of our highest professional authorities, will perceive that, notwithstanding some considerable difference of sentiment, there is very little doubt but that this disease is of a "nervo-rheumatic," otherwise neuralgic, character, acting directly and most powerfully upon the regions of the heart.

CHAPTER IV.

NERVOUSNESS.

Nervousness originating in Brain and Heart.—A Case illustrated. — Stuttering. — Gouty Symptoms exhibited.—Effect of Gout or Rheumatism irritating the Cardiac Nerves.—Madmen and Madhouses.—Suggestion for Improved System of Management.—Different Actions of the Nerves.—Strong Nerves and Determination.—Cases of, and Reasons for, this Peculiarity.—Fits of Passion in Infants, and Children of Larger Growth.

Little understood.

THOSE who suffer from nervous affections are too well aware of the nature of those feelings to require any explanation further than to state, that of all maladies there are none perhaps more frightful, painful, and, I may add, less understood by the million.

A plain practical explanation of the principal causes and symptoms defined in plain language devoid of all technicalities, I feel sure will meet the ideas of every student.

Knowing as I do the various definitions and complications that this affection is brought under, I would simplify the diagnosis in the eyes of the patient: and this should be the great aim of the practitioner. It is not only advantageous to the prescriber, but it is equally a comfort to the patient, by giving him confidence when the symptoms are clearly explained.

Difference between that originating in the brain and the heart illustrated by a curious case.

To further my views in making the diagnosis clearer, and to define the difference between nervousness as originating in the brain and the heart, I will bring forward a curious case where the mind was undoubtedly the primary cause. It occurred to myself.

A Mrs. Hart, a lady whom I attended for many years, and who lived to a good old age, had a cancer in her upper lip. This was confined to the size of a sixpence or a shilling piece; and she enjoyed pretty good health, as long as her general constitution was taken care of; but at times she was persuaded to try local treatment under some other advice; and again she would return apologizing for having been so foolish.

One hot summer's day I called on her at Hampstead fatigued from visiting.

"Now," she said, "doctor, it is my turn to prescribe for you; I have some generous stout under lock and key, I will fetch a glass." The dear old creature acted as good-naturedly as if her little prescription, in its proper place, were equal to my prescriptions.

An idea struck me while she was out of the room, that if I drank out of the same glass, and the vessel had touched the cancer, though the disease might not be thus transmitted, the thought would be far from agreeable.

So I took the opportunity of seizing upon an old-fashioned cut glass on a sideboard where it had been set as a relic and an ornament. This I immediately wiped well with my handkerchief like a "*garçon Parisien*," and was just on the point of "Voilà, madame," when my patient stepped in, and with a smile said, "And so you shall, doctor; no one since my poor husband's death has drank out of the glass; and it is a pleasure to me to see any one who can appreciate old relics and cut glasses."

I drank the stout, and drove on. I had, however, left the door but a few minutes, when a pain in my upper lip extending to the eye began to fidget me, and however much I tried to shake the annoyance off, for many months it continued—an irritation even came on the lip, almost approaching to a sore—probably from rubbing it, and the inconvenience thus produced was very great, though of all constitutions mine has been supposed one of the most tough.

The importance of making a clear diagnosis and recognizing one symptom of nervousness in contradistinction to another, is as great as it is simple. In the gouty diathesis, for instance, how important it is that the relationship of nervousness of the heart should be distinguished from that of the mind. And if the treatment be only applied, to which common sense will guide even the most unprofessional eye, it may be relied upon that out of five hundred cases there will be but few that require any other treatment than simply refreshing drugs, and the rules of common sense.

Drugs, however, can do wonders when skilfully handled. If diseases arise from the heart or the mind, and the results cause a bodily derangement, they can mostly be cured or mitigated under the influence of medical art and science, by judicious advice and simple medicines.

As the case just cited, however, shows the influence of the mind in upsetting the nervous system, which it may do even so far as influencing the action of the heart; I will endeavour to show how the nervous system may be greatly deranged by gout irritating the cardiac regions; often causing the nerves to be permanently paralysed or otherwise irritated to such an extent as to produce maladies of their own, which are recognized under the heading of paralysis, epilepsy, hysteria, and other symptoms, which are frequently classed as mental afflictions.

tuttering.

Again, while making comparisons and drawing a line so as to define the difference between various kinds of nervousness, there is none that offers a more suitable example than stuttering. This symptom as a rule may be considered in direct relation to the mind, as it is generally by influencing the mind only, that any immediate benefit can be elucidated.

Treatment based upon this theory will not only prove correct—but a moment's consideration will suffice to show that all mechanical appliances to the mouth are utterly useless.

Therefore, whatever form nervousness may take, it is absolutely necessary in the diagnosis to draw a line between the different shapes assumed by strong, sensitive, and diseased nerves.

Gouty symptoms exhibited.

If you have come to the conclusion that a gouty diathesis is existing from the appearance of the tongue, flatulency, state of the urine, or glassy eye streaked with blood-shot marks ; although then the heart may or may not be affected with pain, yet the patient may be suffering, from excessive nervous feelings, will tremble, shake from the least excitement which may upset the equilibrium, and all the nerves proceeding from the heart will be more or less set in motion like so many magnetic wires.

The immediate effect of gout irritating the cardiac nerves.

The following case will illustrate my ideas in this respect, and it will assist and simplify the symptoms to the reader, when it is explained that the nerves proceeding from the heart become materially shaken by the influence of gout fixing itself on the regions of that organ :—

Strong case in point.

A professional man in London, a gentleman born with a constitution of a gouty nature, so far as it was evidently recognized in several branches of the family, suffered for several years from headaches, which is not uncommon in such constitutions, upon any extra excitement and good living.

The whites of the eyes would become bloodshot, the secretions from the bowels and kidneys were unhealthy, flatulency and distention of the bowels were exhibited ; and all indicated suppressed gout.

This gentleman, who was naturally refined in his taste, unfortunately took for his partner a masculine and hot-tempered woman; this lady used at times to indulge in doses of laudanum, which she proposed taking to poison herself. At times she required a female as a companion to keep her from going to extremes. The constant care and anxiety were felt so keenly by her husband, that it cost him several years to watch and hold the balance of power at a proper equilibrium in the family circle.

The last feather broke the camel's back. He succumbed to might; at first the left arm became partially paralyzed, then his leg, and ultimately his spirits yielded to the same pressure.

Death was his grand consoler, but not before he had passed through the ordeal of a lunatic asylum; where he was placed by the instigation of his wife and her brother, simply because he was unable to take charge of his worldly matters, though his nearest relations pressed the Commissioners, and solicited his wife's relations to place him under his brother's care. Still they were unable to release him from the hateful persecutions of an asylum suitable only to lunatics.

In constitutions where there is a predisposition to gout, it is quite impossible to form an idea where that inflammatory action may be generated; but it may be remarked wherever there is an irritation set up in any locality, gout will establish itself there. Thus the speciality in this case was trouble and emotion; causing a disturbance at the heart, and gout became translated to that organ.

Symptoms of gout lasted to a greater or less extent for several years, until he had been more than usually upset by his wife, who had not only endeavoured to poison herself, but was acting a virago's part in settling family matters in a pugilistic style.

Paralysis resulting from anxiety.

This so affected the heart and nervous system of the husband that it was perceived that he was unable to hold his pen. His memory failed him, and on one side he partially lost the use of his limbs, and his gait was enfeebled.

With change of air and under medical treatment he at times would improve; but this improvement was dependent upon the ebb and flow of his wife's temper.

This patient having been, on one occasion, treated by me, I had an opportunity of

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remarking how closely his case resembled many other cases that had frequently been brought under my notice where suppressed gout, fixing its inflammatory action on the heart, caused a species of paralysis of the general nervous system.

His case, however, was supposed by his wife and her relations, from the symptoms, to proceed from the brain.

Mad doctors and madhouses.

A doctor (since deceased) of some notoriety in cases of lunacy, was then called in, and upon one occasion met the brother, also professional, in consultation.

It was then remarked that the wife ought to be cured prior to the husband.

Suggestion for improved system of management.

This did not save him, however, from being treated as usual for disease of the brain; and the ordinary course was taken, until by degrees he died of ill-usage and cruelty.

Her relations and the attendants of the asylum were the principal witnesses.

This unwarrantable method of endeavouring to cure patients by first incarcerating them in madhouses, and then treating such affections as diseases of the brain, is an existing disgrace to some members of the profession.

Commissioners in Lunacy.

The Government offers every facility for this class of practitioners to trade on the real or fancied ailments of human beings: and how far it is true I cannot say; but though it would appear that the commissioners are all gentlemen of unquestionable character and position, yet they have neither time—nor, I suspect, are they afforded fair opportunity—to search satisfactorily into all the cases brought before them.

Thus matters are settled according to rule, and according to rule consequently many a poor creature is launched into hopeless misery.

Lunatic asylums, the management of.

I have no doubt but that some of the special doctors, who keep these extensive buildings, conduct their establishments in a way that is highly creditable; but some act very differently, and I could, if I chose, speak more freely of one in particular, where the manager is a mere money-making hypocrite.*

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* Since the publication of the eleventh edition of this book, the person alluded to is deceased.

The existence of such men, and the fact of their holding a position in society, renders it incumbent upon you not to trust your friend in such hands without having first of all made most searching inquiries, lest you should be the ignorant means of consigning your friend to a hellish prison, where the poor patient gradually gets more feeble in mind and body.

It is entirely out of my province to pretend to make laws; but I am by no means singular in my opinion that an improvement in the existing laws would be highly desirable.

Severe comments by celebrated authors.

The very strong strictures passed upon the present system by such writers as M. Perceval, Chas. Reade (the author of "Very Hard Cash"), Cockton, and others, have been suffered to pass without contradiction, or even any satisfactory attempt at explanation; and this fact I consider speaks volumes in its condemnation.

I do not know how far it would be practicable, but I have often thought that a company would succeed, in a lucrative point of view, managed by a lay committee, a general committee, and a medical staff, under the general superintendence of the Commissioners of Lunacy.

I believe there are many philanthropists who would give their services on the lay committee gratuitously, for judging any complaints that might be laid before them as to treatment of patients, &c.

Limited liability in relation to lunacy.

The financial matters of the company would naturally come under the management of the general committee.

It is my belief that a most useful and safe limited liability company might be thus established, which would pay a fair dividend.*

It would also relieve the commissioners of a certain amount of responsibility.

Those gentlemen, as matters are at present, have either too much power or they have more to do than they can honourably manage. They have two parties to please, and seem to hesitate to give a decided opinion. The mad doctor is well paid, and the solicitor advises you to let him alone unless you have plenty of funds on hand; if you have not the sinews of war the contest is hopeless.

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* Since publishing the above, I have been informed that, whether in accordance with *my* suggestions or not I cannot tell; but that, at any rate, my ideas have been adopted, and establishments arranged in accordance with my views, notably at *Northampton* and elsewhere.

Thus if you become entangled between Whitehall and the madhouse, you will find yourself in the unenviable position of a fly in a cobweb.

Meanwhile the patient is getting worse and more feeble—he finally falls into a chronic state of derangement, and his friends are at last forced to give him up as helpless.

Moral influence as a curative agent.

Kindness and skill will effect a cure in almost any case, and will go a long way to ameliorate the very worst and most confirmed; therefore, to set down ailments as hopeless, because some fashionable medical adviser says such is and must be the case, is a wicked absurdity.

A great number of mad doctors, those at any rate of any celebrity, have far too many engagements to give the requisite attention to the case of an ordinary patient.

It is obviously, therefore, when occasion unfortunately requires it, a much safer plan to seek out a practitioner of somewhat less pretensions, and to pay him liberally, so that it may be worth his while to devote some extra time, skill, and consideration to the case.

By so doing you will certainly let your friend—as his patient—have something like a chance of recovery.

Different actions of the nerves.

The term "Nervousness," as it is generally applicable to numerous complaints, requires a great scope and a broad margin to define its true character.

But it belongs more especially to a sensitive state of the nerves, governed by some one or several causes.

Men of nerve and determination often nervous and sensitive.

A patient may be a strong man, that is to say he may be a man of pluck and energetic will, and yet, apparently, in diametrical opposition to this disposition, he may be highly sensitive.

Case of and reason for this peculiarity

En passant, I would briefly instance that bold and remarkable man Oliver Cromwell as a peculiar instance of seemingly paradoxical assertion. notoriously sensitive, even to of hysteria.

Strong nerves and fine feelings.

And in later days we may notice that good and brave soldier General Sir Thomas Picton, who, daring in action almost to rashness, was so notoriously moved by a story of woe or an appeal to his charity, that he was only too frequently selected as a subject for imposture.

But why need we multiply instances? depend upon it that the poet was not far wrong when he penned the beautiful and well-known lines,

"Go watch the foremost ranks
In danger's dark career,
Be sure the hand most forward there
Has wiped away a tear."

The reader will understand therefore that a man may quiver like an aspen in every limb; be unable to face the slightest personal danger or mental emergency, and yet have a strong grasp where money is concerned; he may be a stern man of business, and a merciless landlord, or a pitiless usurer—there are plenty of such instances before the world—whereas the man of iron nerve and daring heart in action, may be in private life as soft hearted as the most tender of women.

The whole frame of such men would appear on cursory observation to be a healthy, powerful, and energetic mass: strong in mind, able in body, quick in perception and judgment, acute and self-willed. But the whole of this magnificent outward show may be under the control and completely dependent on a hidden power, to wit, the nervous system, which, on being unduly excited, has power to reduce the finest thews, muscles, and sinews to an inert and degenerate condition.

Marvellous power of the nervous system.

The nerves have a great abrading force, which, when under the influence of extra pressure, takes great effect upon the parts with which they come into immediate contact.

For instance, the heart or the brain may be overtaxed: those bodies, then, may become abraded by congestion, or the valve may yield to pressure by the direct action of a powerful nerve.

Many are of opinion that in numerous cases of this description it is through the muscular system that such abrasions take place—and it may be so; nevertheless, I am strongly impressed with the idea that through a powerful nervous agency, an abrasion of an artery or blood-vessel, or a permanent derangement of the mind might take place.

Thus through the influence of the mind, or the impulse of the nerves during any hurry or excitement, such as in a fit of passion, or struggling to get into a railway train, &c., &c., the valves of the heart may become abraded; and through this disturbed circulation many other organic diseases may be set up.

Effects of fits of passion on infants, and children of larger growth.

Many children, in particular when spoilt by the foolish indulgence or ignorance of parents, in a fit of passion or crying, may thus become ruined for life; and men and women committing similar acts of folly frequently injure some vital spot.

This I consider tends to prove that it is not through any muscular action, but by direct nervous agency only that these organic ruptures take place.

CHAPTER V.

HYSTERIA IN RELATION TO DISEASE OF THE HEART.

Supposed Derivation of the Term—Leading Characteristics—Globulus Hystericus—Men liable—Not caused by Uterine Derangements — Tonics and Spirits, the Use of—Form of Paralysis, &c.—Dr. Wardrop asserts that Drugs counteracting Gouty Diathesis have been found remedial—Dr. Reynolds—Higher Classes of Society peculiarly liable—Reasons—Dr. Copeland—Tendency to Rheumatism or Rheumatic Gout traceable—Cases quoted.

Supposed derivation of the term.

THE technical name of this disease, hysteria, is derived from *ὑστέρα*, the womb, and it is generally supposed to be of a nervous character, and confined to females.

The name is in such universal use that every little action, movement, or speech tinged with peculiarity or absurdity, is referred to this malady, and yet there are few diseases of a more serious character, or so little understood.

Leading characteristics.

Its leading characteristics are certain paroxysms to which generally females only are liable—convulsions, choking, laughing, crying ; besides a whole range of nervous disorders which are not usually recognized under this head, it embraces many symptoms that are not quite understood, and are classed as hysterical.

Globulus hystericus

Hysteria is distinguished from other fits by a ball or lump causing a choking sensation in the throat, accompanied by a temporary loss of power, and sometimes by a feeling of suffocation, together with convulsions, in which the patient may be agitated with violent struggles, and consciousness not entirely lost.

These are principally the clear characteristic points in hysteria : the patient will frequently strike her head, tear her hair, bite frantically, have outbursts of inordinate crying or singing, and will terminate in tears.

Hysteria, considered as a derangement of the nervous system, may cause a temporary squint, a contraction of foot or limb, an almost total loss of voice, an alarming cough, a want of power in swallowing, and other ailments, to say nothing of a thousand and one which are purely imaginary.

But whatever form it assumes it is generally preceded by a clear flow of urine.

Liability of men to hysteria.

The universal opinion seems to be that this disease is confined to the female sex, but if there be any truth in its arising from what I am endeavouring to demonstrate, viz., from gout and rheumatism affecting the heart and nervous system, it will be clear that men as well as women may suffer from the same symptoms. Moreover I think that the name, as derivable from the womb, might be judiciously altered for one applicable to the general nervous system.

Doctors differ; well they may. Mr. Skey wrote on the remote causes of hysteria, and the advantages of a tonic principle as a curative agent. This work every student should read. But it will strengthen him in his practice to balance his ideas with new suggestions and a different mode of treatment. He brings forward cases where tonics have acted as charms, and it strikes me that tonics work something little short of miracles. So far we agree, but my object is now to notice the points where we disagree.

Not caused by uterine derangements.

It has been my lot to visit hundreds of cases in every shape and form during the last eighteen to twenty years, and I conscientiously believe, unbiassed by any selfish interest, that hysteria is rarely caused by uterine derangements or debility. If there is truth in these assertions, the majority of such cases should be treated on a perfectly new basis; and the administration of tonics and the use of wines and spirits would be found worse than useless.

The usual causes of hysterics may be found in any cyclopædia or register of diseases, and may be thus briefly defined—merely a disturbed action of the nerves, and quite independent of all real, structural, or inflammatory disease. In this way authors are apt to speak of a disturbed action of the nerves, quite regardless of affording any sound reason or cause for the disturbance.

It is also the general opinion in all

such cases that it will be found that the disease, stimulated by the hysterical affection, whether it be in the head, chest, or hip, or any large joint, cannot exist, *since other symptoms essential to constitute it are absent.*

The transitory nature of pain from hysteria.

It is urged that the pain from hysteria is transitory and unfixed in its seat, and has generally the peculiarity of being aggravated by the slightest touch, or even by simple notice being taken of it, which are not attributes of cases arising from inflammation.

So far this is understood in the profession; and though there may be cases cited where no *direct* inflammation can be traced, my object will be to prove that inflammation may be the *indirect* cause of pain in any joint or other part in hysterical cases; and though almost all symptoms of disease can be stimulated by hysteria, still the formation of other diseases may be the primary cause.

It is not my intention to insinuate that other medical men have not been able to detect some real disease present with nervous hysteric symptoms, but experience tells me that the primary cause is rarely detected by the junior members of the profession, and that the relations of the patient are apt to aggravate the symptoms by making jokes of one of the most painful and difficult of all cases to be treated.

Hysteria assuming the form of paralysis.

Hysteria may assume the form of paralytic affections; the power of moving the leg, or of using the voice, may be lost. Long-continued stupor, or trance, has been traced to this disease. Very commonly seen are spasmodic affections, hiccough, or spasms of the throat, preventing swallowing. Nor is it improbable that from uterine or sexual irritation some disordered state of the senses and mental faculties may occur, and be recognized as hysterical—such as somnambulism, certain phases of monomania, and those peculiar perversions of the mind manifested in the desire to feign various diseases. It would be unwise even to intimate that the uterine functions may not have some share in the cause, but it is far more probable that the irritation originates in the cardiac regions.

Somnambulism; case cited by Dr. Wardrop.

Dr. James Wardrop, in the last edition of his work on "Diseases of the Heart," cites a case of somnambulism which I pointed out to him where the cerebral organs were deranged owing to some irregularities of the heart; this is so far interesting, as the patient was cured by drugs that had a direct action in allaying the palpitation that had been set up from a gouty diathesis.

The strongest arguments which may be brought to bear in support of such nervous and cerebral complications arising from, or being implicated with, uterine affections, are derived from the fact that they occur generally between the age of puberty and that at which the catamenia ceases.

My object is not so much to echo what has been already written on this subject, but rather to endeavour to throw a fresh light upon the matter, making suggestions, and soliciting new ideas. It is just, as far as my experience goes, therefore, to ventilate the popular error that this complaint is confined to women, and to demonstrate this by facts is a necessity in the age we live in. Thus it would be better to re-christen the complaint, and call it "Rheumatic affection of the nervo-cardiac system."

In support of these views Dr. J. R. Reynolds, one of the most recent, as well as one of the most able, writers on this subject, might be referred to. He says :

Dr. Reynolds's opinions.

"The predisposition to hysteria does not exist in the fact of an individual being of one sex or the other, but in the possession of a nervous and habitual constitutional tendency, or induced relation between the several elements of mental, moral, and physical life, which is common to, but not always possessed by, women—unnatural to, but sometimes exhibited by, men. Some women are as little likely to become hysterical as men are to become pregnant: they are of masculine build, both mentally and bodily; and their existence, and predisposition to disease, furnish another proof of the truth of the general proposition that it is in the nervous endowments, and not in the nature of the reproductive apparatus, that the special predisposition lies."

So far, then, it would be correct to remove the error that only women are subject to hysteria, for it is a serious mistake not to look to the opposite sex, and particularly men subject to, or threatened with, gout or rheumatism.

Now it is an acknowledged fact that the various social grades have a tendency to produce a certain diathesis; and once a diathesis is established, it will in all probability become hereditary. I have no hesitation in saying that such a diathesis may be a prolific source of hysteria.

Class of society.

Those having the advantage of the higher walks of life are liable, from their style of living, to be without a commensurate amount of active occupation, and therefore are apt to be subject to the lithic or lactic diathesis as above referred to.

It may be remarked, however, that hysteria in its most complicated form may be accompanied by debility, and this nervous affection requires as much feeding as gout in some stages demands.

Dr. Copeland.

Still wherever this diathesis prevails there is usually a great amount of gastro-intestinal disorder, and Copeland in his article on hysteria, when speaking of the causes of this affection, states :

"Gastro-intestinal disorder or irritation has been justly viewed by numerous writers as a predisposing cause of hysteria, and is particularly insisted upon by Broussais and his followers."

And when this irritation is the result of gouty disposition, he further intimates :

"It has been supposed by some writers that the female descendants of gouty parents are more prone than others to hysteria." This may be partly accounted for by deficiency of constitutional energy derived from the parent ; and from a greater susceptibility of the nervous system, as well as from the source above mentioned.

Masculine tendency.

It has been said that masculine women are more disposed to hysteria than those of delicate constitution, on account of their self-willed disposition ; but judging from my own experience this idea is certainly incorrect. For instance, a child or a delicate female may be suffering from neuralgia, this again may develop itself into hysteria, though perhaps not in the shape of strong masculine fits; still not unfrequently resulting in loss of the use of leg, voice, hip-joint, or inverted ankles, &c., &c.

To further prove that the ideas are correct, and to give weight to arguments, I should bring forward further facts and cases, but, as the space is limited, the synopsis must be confined to a few only, merely adding that my hospital experience has not been numbered by units, but that hundreds of similar cases have passed under my notice.

In each case, and with but few exceptions, a tendency may be traced to rheumatism, gout, or rheumatic gout, either in the patient or immediately connected with some branch of the family. The investigation of these causes and symptoms will be useful in guiding the practitioner to a successful mode of treatment.

One great error is worthy of ventilation, viz., that of designating the complaint

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"only nervousness," and treating the case with carelessness, and suggesting jokes, making sarcastic and painful insinuations, and thus getting out of a difficulty by telling their friends it is "only hysteria." To some "only" appears a trifle, but to those really suffering from this malady such remarks must be really painful.

I would not pretend to insinuate that it is not better to be firm with your patient, and we all know how influencing the mind assists nervous affections of the heart—as one reciprocates with the other. It is unwise to be over-inquisitive into every symptom that may be spoken of, as the patients will feel every pain you draw their attention to; thus, if you speak of a cough the voice will drop, if the leg is mentioned they walk lame, &c. Rather than enter into the details, get at the constitution of the relatives. One may have epilepsy or the two combined, another relation paralysis, or a grandfather may have died of rheumatic gout, or scrofulous symptoms, fistula, &c.

The following case is so far interesting that it shows hysteria may be recognized in children as well as in adults, and it points to a successful mode of treatment.

A child was noticed to drag its foot and limp with one leg, and from an early age was considered delicate.

This uneven gait that appeared peculiar to the child was recognized as a bad habit, and the usual tonics administered; but as the child advanced in years various scrofulous symptoms followed.

Gout and hysteria from fright.

Change of air was advised, and when about twenty-two years of age, she went to Algiers, and enjoyed good health. While there she fell downstairs. It was supposed the leg and hip were in some way injured, and leeches were applied.

This appeared to aggravate rather than soothe the pain. The leg became contracted and the foot inverted some few inches from its normal state.

Every device was thought of as a curative agent—blisters, shower-baths, electricity, frictions, setons, &c., but all to no purpose.

During this treatment the symptoms changed. Excessive retching prevented a particle of food entering her stomach. For this a blister was applied to the chest, and kept open some time, under the idea that the discharge would relieve the chest and prove a remedy.

When chloroform was administered, the contraction of the leg would yield; thus proving that no injury occurred from the fall, but that it was plainly a case of hysteria.

Various other remedies were resorted to; but each in succession rather aggravated than healed the injury.

This poor sufferer, after going through every ordeal suggested, was brought to London, and it was remarked how stout and youthful she looked, and yet not a particle of food appeared to enter her stomach.

No recognised treatment.

In consultation with several medical men, a fair opportunity was rendered of defining that no recognized mode of treatment could be suggested. They all proposed an ordeal that the patient had more than once followed.

It therefore gave me great pleasure to further improve my ideas on the subject, as it was quite evident rheumatic gout could be recognized constitutionally *in the family*, and as I had on several occasions noticed such symptoms yield when the inflammatory action of rheumatic gout had appeared, I suggested such drugs as were usually administered in those cases.

I was actuated in pressing my opinion more freely by the fact that her brother had been under my care for a similar affection, and a fistula from which he suffered further proved that he was of a scrofulous constitution. His extreme nervousness, his memory, generally all indicated and pointed to hysteria. A child moving, a person walking before or behind him in the street, with many other accidental circumstances, would set his nervous system into a painful state of irritation.

From various circumstances it was easy to trace that his nervous system was aggravated by wine and spirits; and that when gout and rheumatism were generating, the nervous susceptibility and hysterical actions were increased.

The translation of Gout.

The sister, who was then under consultation, was left to my care. My first object was to relieve the alimentary canal, and as not even a teaspoonful of liquid could we get her to swallow, I suggested croton oil triturated with oil. This caused a copious evacuation, and a few days after the sickness abated, but not until rheumatic gout had shown itself in the calf of the leg. Alkalies were then administered freely, and such drugs as are usually prescribed in such constitutions and cases where there is a predisposition to a gouty diathesis.

After this some smaller doses of alkalies had good effect, but I should here state that upon one occasion the gout translated again to the chest, and the former symptoms returned. It was not, however, until it again made its appearance in the extremities that the hysterical symptoms in the chest became relieved.

Tonic principles.

The treatment of rheumatic gout is thoroughly understood in the profession, so that it is useless giving further explanation, or pointing out the therapeutic advantages that one drug has over another. It is well known that the tonic principle—wines and spirits—are not immaculate in gout and rheumatism; and in hysteria, except in a few cases spoken of by Skey, they excite, and add fuel to the fire.

This patient made rapid progress, and it is as well to remark that no spirits or tonic principles were resorted to, but a course of treatment followed out that I have more than once suggested for cases where the nervous system was influenced by an inflammatory action.

A lady who complained of all the same old aches and pains—extreme loss of voice, fits, coughs, and sundry other hysterical ideas that were only counterpoised by attention being brought to objects of a different nature, remarked,

Rheumatic gout.

"Doctor! I do not know how it is, but when the inflammation leaves the joint of my great toe, it is followed by a return of the former symptoms, and either my voice leaves me or the sickness returns. Of the two ills, therefore, I prefer the bunion."

This lady had rheumatic gout, and the same symptoms had been detected in other branches of the family, and it has been stated that since she was under my care she had been laid up with rheumatic fever. Thus her constitution may be easily traced, and it proves also the relationship that hysteria and gout may have in affecting the heart and nervous system.

The subjoined letter illustrates a very remarkable case, and is worth perusal :—

A case of spasmodic contraction of the throat.

"1, Norland Square, Notting Hill,
"24th February, 1869.

"Dear Doctor,

"About eight years ago, during the turn of scarlet fever, I had administered to me by mistake a wine-glass of Dr. Burnett's disinfecting fluid, the instantaneous effect of which to my throat and bowels was intense burning.

"The cause of the agony I was found in by my mother was not discovered until an hour after I had taken the poison. Dr. Grey, of Paddington (since dead), was sent for, who gave me an emetic in eggs; he thought I could not live longer than three hours, as the blood was overflowing the heart so quickly. I could breathe but with very great difficulty. I was nearly covered with poultices to allay the pain in the bowels and throat, and was bled profusely. My limbs then began to swell very much, the nails turned black. I could not see nor speak; and there was a continual flow of mucus from my mouth. However, Dr. G., after a consultation, thought I might recover, but he could not say what the after-consequences might be; it was thought I should not recover my sight or speech.

"I remained in that state for about three months, during which time I was again bled, dry cupped, had leeches on the throat and stomach, and fomentations.

"I then began to recover my sight and voice.

"The swelling was pronounced dropsy, for which I was placed upon a water-bed and continually rubbed for hours together. I could only swallow liquids.

"I then saw Dr. C. G., who ordered blisters on the throat. I had eight in succession, which were kept open by the application of an ointment. After this I was removed to the house of a friend in Bayswater, where I saw Dr. T., who, to ascertain if there was stricture in the throat, passed a bougie, as thick as a thumb; he thought there was a slight stricture and spasm. My lungs and heart he thought perfectly sound. The mucus I expectorated weighed each day about seven pounds.

"I then took inflammation on the coatings of the bowels. The sickness was so great that Dr. T. thought it was the emptying of the stomach before death. He gave me up.

"My mother then gave me laudanum and brandy by drops, which allayed the sickness. I was almost covered with mustard-plasters, and fomented day and night.

"Dr. E., of the Mesmeric Institution, then saw me; he recommended mesmerism. Mr. F., the secretary of the institution, mesmerized me for an hour a day for seven weeks; during that time the inflammation left me, and I could then eat thin bread and butter.

"I then went to Eastbourne and saw Dr. G.; the change was of benefit, but still I could not swallow even liquid [illegible] with great difficulty.

"My grandmother dying and I

me a legacy, it was necessary that I should go to Scotland to receive it in person. I there saw Dr. R., who was so alarmed by my appearance, he having advised my coming to Scotland, but fearing I might die in his hands, thought the best thing I could do was to return home as quickly as possible. However, I remained in Dumfriesshire for six weeks. The expectoration ceased, and I began to feel better.

"I returned to Eastbourne, where I was again very ill for three weeks. I could not swallow even liquids. I was kept alive by beef-tea enemas, and being fed by the stomach pump ; after which I had another attack of inflammation of the bowels. Dr. H. ordered blisters on the back of the neck and side.

"After recovering a little I went to Devonshire, where I saw Dr. H., who thought it was necessary to use the bougie frequently and to have the instrument increased in size to prevent further stricture. After being in Devon about a year I again visited Scotland, saw Professor S., who saw me use the bougie, but thought it of no further use; he said there was more spasm than stricture, and ordered me to take chloroform before eating.

"I was in Edinburgh for three years, and saw several doctors, who all recommended Nature as being my best doctor.

"I again returned to England greatly recovered in health, but not able to take anything solid, or rather anything that will not dissolve in the mouth. After being three months in London I took my present engagement, where I have been for nearly three years and a half, during which time I have had one slight attack of the inflammation. I live now upon clear soup, thin bread and butter, milk, &c., &c.

"I was very much surprised to hear from a friend of mine whom you had cured of heart disease, that such affections as throbbing, beating, and contractions in the throat, did not unfrequently arise from a disordered circulation when in relation to some nervous affection. It was from this I was induced to follow your advice, as several of my relations have been afflicted with gout.

"I might say now I am rapidly improving, and am commencing to swallow and eat as formerly, *i.e.*, nine years ago.

"I am, dear Sir,
"Yours ever faithfully,
"Agnes Coltart."

While defining the various kinds and phases of hysteria, and illustrating cases where gout and rheumatism may be the immediate exciting causes; it may be expedient to note others, just as a barrister may cite legal precedents in laying his case before a jury.

Hysteria arising from the nervous system being over-taxed.

It may be requisite, however, in bringing forward peculiar cases to enter into more explanation than usual; as, however clear and well established certain circumstances may appear in the eyes of the author, his readers' ideas might not always follow him.

Extreme ambition.

We will take for an example an ambitious and deeply-designing woman, who has for her object—let us say—a successful and wealthy marriage. To accomplish this object she devotes all her powers both of body and mind: every art is brought to bear, fictitious manners, fictitious dress, fictitious sentiment, and even, if she can manage it, fictitious position in society. Her design fulfilled, what is the result? Generally what might be expected after unnatural exertion of the body and mind, or (what is much the same) the nerves; consequent reaction, depression, and hysteria.

Or, if we look on the reverse side of the picture, and illustrate a case of the opposite sex, it may be equally serviceable.

A man may be gifted with more than an ordinarily sensitive nature; and he may have a natural predisposition towards hysteria. This, however, is no bar to his being conscious of strong ability, and as a usual concomitant to such consciousness, some ambition, more or less. As suggested in the case just cited the more difficulties in his way there are to overcome, the more determined he is to ride over them, and to this end he bends and overstrains all his mental and bodily energies.

In a family where several members of great mental ability were recognized as hysterical, nervous, and sensitive in the extreme, there was a brother, whose case in some degree illustrates my meaning.

Keen powers of perception.

His keen perception and far-sightedness, with his peculiar power of surmounting any ordinary difficulties, were apt to lead him at times into extreme carelessness.

The gentleman in point was the secretary of a public institution, and was well worthy of the appointment: but having obtained it he could not remain quiet; the ordinary routine of his duty did not suffice him.

He commenced to transpose or to endeavour to transpose the official departments; changing and exchanging, until he had got himself into a fearful labyrinth of difficulties. And though he had strung his mental energies up for the effort to their utmost tension, yet an over-bent bow will break, and his over-strained nerves gave way to hysteria.

A dose of poison afforded to the overtaxed heart and brain of the unfortunate man the rest and quiet of which he had wilfully deprived himself.

Extreme exhaustion.

In both cases cited, male and female, the same predisposition to ambition may be traced, and in either sex the same result is observable, viz. : that when the object is obtained—or when on the threshold of obtaining the object, reaction takes place, and unless the nervous system is aided by some opposite attraction to counterpoise the depression, the result must be hysteria.

Complications.

In this form of disease the whole labyrinth of the nerves, heart, brain, and spinal cord, one and all become implicated; and wild ideas and strange imaginations take place.

In woman the womb and its concomitants are frequently affected: loss of voice occurs, with cough, also lameness, contractions, lassitude, sobbing, &c., &c.

A man's case is not much better: his imagination runs riot, until his brain is seething over with a mass of ridiculous ideas which would be horrible were they not so ludicrous, and he approaches pretty closely to the confines of insanity.

It is in such cases as these where a moral influence is required to work in combination with the practice of medicine.

There may be constitutional debility of the nervous system approaching almost to paralysis, as the wasting of the muscles for want of action—and the symptoms may take various forms when the organs are thus enfeebled in their avocations.

Assumes the form of paralysis.

They may be of an hereditary type, or of a functional form taking the shape of hysteria, as in the two cases cited, viz.: as an exhaustion of the electric current; and when this state of depression is not counterpoised by stimulating the nervous system up to its normal condition, the weakened brain admits strange ideas and wild hallucinations, and hysteria is set up in its true character.

CHAPTER VI.

PALPITATION AND GLOBUS HYSTERICUS.

Throbbing—its Cause—Yielding to Cardiac Treatment—Rheumatism, followed by Palpitation, Consumption, &c.—Throbbing in the Throat, caused by Rheumatism—Case quoted—Swelling of the Veins—Instance of a Child—Aneurism, Translation of.

PATIENTS not unfrequently put doctors to the blush by asking questions which they cannot conveniently answer, and there are none more constantly put than the disagreeable question "Why should the throbbing be here?" and "Why should the palpitation be there?" and so on. Now, most of my ancestors have been connected with medicine, and I was born in a bottle of physic, or very near one; and yet, though keeping close to the profession all my life, it is still beyond my power to define why an artery should throb more in one locality than another. We know and speak of the *result*, but few appear to be aware that the heart is the cause of this throbbing, but so it is. Some have it in the temples, some in the ear, chest, bowels, or legs, perhaps most frequently of all in the throat; and as these symptoms are constantly under my notice when there is every evidence of heart disease existing, and as they yield in such cases to cardiac medicines, it is correct to call attention to a method of treatment which has proved successful.

Throbbing.

Yielding to cardiac treatment.

When a patient complains of palpitation, the probability is that he construes that term to signify debility; but no greater mistake can be made, for palpitation may arise from inflammation, from gout, from rheumatism, excitement, as the heart labours to circulate the blood.

Phthisis, *i.e.*, consumption, is too well known to require much comment; and we are all aware that debility, scrofula, and derangement of the stomach may predispose towards abscess on [illegible] nd hæmoptisis, &c.; but many [illegible] have been known to pass [illegible]

Rheumatism followed by palpitation causing consumption.

a very strong feature, viz., that rheumatism, when located in the chest, is the great basis of palpitation and consumption; pain may have been first recognized in the region of the heart, shoulder, loins, or limbs generally, and the rheumatic pains may to all appearance pass away, the patient becoming very feeble and excessively nervous.

Then another form appears on the stage, and palpitation sets up. And now the great error steps in. Debility is supposed to be the primary cause. Tonics are administered, and tender nursing is lavished—both in vain; cough ensues, followed by abscess on the lungs, and, finally, death is the result.

Throbbing in the throat caused by rheumatism.

A throbbing in the throat and other parts is not uncommon when the heart is out of order from rheumatic affections, in cases of debility, in gouty constitutions, and in epileptic patients.

Excessive throbbing will sometimes establish itself, as though the mind, or nervousness, influenced the heart, and thus caused an extra pressure upon the artery. These are daily hospital cases.

The following cases will confirm my ideas; they are both remarkable:—

Cases quoted.

The first is that of a lady previous to her confinement. She felt, whenever she was about to partake of food, a choking sensation, accompanied by a beating and throbbing in the throat, to such an extent as to preclude her taking any nourishment except in a liquid form. It was not until she was relieved of the burden that the circulation returned to its normal state.

Instance of a child.

A second case came under my observation, viz., that of a child in arms. This child had the veins so distended in various parts of the body, face, and limbs, that they, together with several arteries, were enlarged almost to the size of a little finger, yet these symptoms yielded to medicines which improved the condition of the blood, without any external pressure, viz., alkalies, and ferruginous preparations.

A patient, who had long suffered from rheumatic affection of the heart and lungs, was cured after having expectorated a mass of crassamentum from the lungs that impeded free circulation of the blood.

Though the next and last case which I will quote may not appear to refer directly to the class of disease for which this work is intended, yet it may assist in defining the difference of debility, sympathy, and disease.

Throbbing of an artery being translatory.

The case in question was where pain and throbbing were felt by the patient in the groin and bowels. The symptoms having been mistaken for rupture, a truss had been advised. Later, the throbbing, approaching to aneurism, shifted its position, and the arteries in the legs became the seat of disease. No improvement, however, took place until such cardiac medicines were administered as tended to restore the healthy tone of the general circulation. That once set right, the heart obtained its normal condition, and all symptoms of aneurism disappeared.

Quality of the blood.

Of the various diseases that the arterial and venous blood is liable to, there are none more characteristic than its chemical combinations, or the sanguineous fluid becoming thin and poor in the ordinary component parts from scarlet or rheumatic fever, or from other causes, such as when the serum separates from the clot or crassamentum.

The vessels through which this fluid runs are subjected to various kinds of pressure, all according to circumstances that might impede a free course or channel, and thus produce a throbbing or pulsation. If this distension proceeds from the arteries it is termed aneurism; if from the venous blood, varicose veins.

Distension of the arteries and veins.

Sometimes this distension, as in cases of aneurism, will increase until the veins burst, like a water-pipe, either through muscular exertion or through the overtaxed heart, when the pressure has been known to drive the blood through the valves, so as to leave an organic derangement.

It is to prevent aneurism and varicose veins that mechanical appliances are generally resorted to; and it is under these circumstances that errors are not unusually made, such as relying on mechanical means, without putting the blood into a healthy condition, and relieving the heart from noxious and irritating deposits. It is the constitution generally to which we have to direct our attention, so as to arrive at a proper mode of treatment.

CHAPTER VII.

INFLATIO, RUCTUS, OR FLATULENCY AND WIND.

Gas generated in Relation to the Exit of Other Secretions —Eructation—Symptoms of Dyspepsia—Indigestion a Gouty Diathesis accompanied by Pain—Hiccough—Water-brash—Affinity to Gout at Heart—Dr. Tanner, Dr. Watson, Extracts from.

Generated by gas.

"FLATULENCE," so says Dr. Tanner, "is the undue collection of gas in the intestinal canal. It may arise from two or three causes; that is to say, from air swallowed, from gas generated from decomposition of the contents of stomach or bowels, or possibly from gas secreted by the mucous membrane of the intestinal canal.

Driven up by eructation or otherwise expelled.

"In the first instance, the air is thrown up by eructation and is nearly odourless and tasteless; in the second the gases are very fœtid, and are often accompanied by nausea, griping sensations, tenesmus, &c., while in the third the gas is generally expelled per anum, and has the odour of healthy fæces.

Symptoms of dyspepsia or indigestion.

"Dyspepsia (from δυς, difficult, and πεπτω to cook or digest) or indigestion (from in, not, and digero, to concoct or digest) is one of the most common diseases of which we have to treat.

"Anything that interferes with the healthy action of the stomach or intestines may give rise to its formation."

May proceed from a gouty diathesis.

For instance, if a man has his foot red and swollen, the tongue furred, the urine thick and scanty, or his fingers all in knots, you say that it is gout, so it is; but the symptoms may yield results when implicated with the heart, and translated to that organ, almost similar to that of a rheumatic nature; and here you must take care not to be mistaken.

But you will meet with patients whose feet and fingers have not been affected, where the flow of urine has been healthy, and yet with that overpowering flatulency in the alimentary canal, sickness and wind in the regions of the pulmonary organs sufficient to cause extreme distress; all this may exhibit none of the usual symptoms of gout and yet may proceed from a gouty diathesis; and if treated accordingly it yields to such drugs as are generally resorted to for arthritis. And unless you make use of such means for removing the disorder of the blood, and direct your attention to the functions of the heart, regardless for the time of dyspeptic derangements, the probability is that in the majority of cases no cure will be effected.

Sometimes accompanied by great pain.

It is not uncommon to find a patient suffering to such a degree that it is only by a continuation of muscular motions by rolling and beating the back and chest that any relief can be obtained; and then only temporarily, enough, perhaps, to give sufficient relief to take a little food.

Hiccough or water-brash.

The eructations are not always singular; for in extreme cases they are accompanied either by hiccough or *water-brash.*

We may remark here that the technical appellation of water-brash is pyrosis, from πυρ, fire. The usual symptoms are burning sensations in the region of the stomach, accompanied by eructations and a copious discharge from the mouth of a watery insipid fluid.

Both have affinity to gout at heart.

But as these symptoms are frequently of a gouty diathesis in relation to some cardiac derangement, they require consideration; as, by the medical world, they are generally recognized as hepatic affections more or less in conjunction with cardilagia.

This disease, as the name implies, from the Greek, καρδια, the heart, and αλγος, pain, means properly pain at the heart, very commonly and correctly termed "heartburn."

Not as Hooper and other authorities would tell us, pain in the "stomach!"

Καρδια does not mean stomach. It is merely from the great sensibility of the upper orifice of the stomach that uneasiness in that region is most easily felt. Undoubtedly in the treatment we must look for the primary cause to the heart; but at the same time we do not doubt that irritability of the whole or any part of the organ, and, perhaps, of the adjoining organs, as the pancreas, spleen, and liver, will often produce the same local implications.

The remote causes of cardialgia, under whatever variety it shows itself, which is chiefly regulated by the habit or idiosyncrasy of the individual, are indigestible articles of diet, especially fat, oil, butter, or cheese taken in excess; an habitual and copious use of very cold or very hot beverages, spirituous potations, deranged bile, &c., &c.

Water-brash and its cause.

And I feel myself justified in drawing the reader's attention to one or two points: one is that the fluid discharged from the mouth does not so frequently proceed from the stomach as from the salivary glands; the mouth becomes filled with water, which will actually pour from the mouth while no effort is made by the stomach or chest to eject it. Thus, some error must be made in supposing it to proceed from the hepatic regions, in distinct contradiction to what the name of the disease implies.

Were the attention of the profession

drawn to any case that may be under their care, they would find remote causes pertaining to a gouty diathesis clearly demonstrated; and when gout and its allied secretions are too nearly connected in the chest, this watery fluid is thrown off to relieve some organ when it, or some other secretion, is not passed off by the bowels, kidneys, or skin. An exit there must be, and that this relieves some material organ is unquestionable.

Flatulency in relation to heart disease.

Thus, it behoves the practitioner to direct his attention most particularly to the healthful state of the blood.

"In chronic cases, among other sensations, there will be observed flatulence, nausea, costiveness, acidity, furred tongue, foulness of the breath, palpitation of the heart, a weak pulse, and a heavy sense of oppression about the region of the chest."

Again, the consequence of slow digestion among other symptoms, is palpitation of the heart, irregularity of the pulse, accompanied by occasional dimness of vision with distressing mental depression.

It is only right to render honour to

whom honour is due, and it is a pleasure to quote my confrère Tanner; but I might almost as well quote myself, as in my first edition, eighteen years ago, I drew attention to one of the laws of secretions that should be classed in the same family with other secretive processes, as being a medium of expelling certain unhealthy conditions of the blood.

Healthy and unhealthy secretive processes.

It would appear that, when the blood or flesh is overcharged with gout or impregnated with certain foreign agencies, an outlet becomes absolutely necessary; and should no channel be available, heart disease, or some internal abscess, must inevitably generate. Thus there is an exit by the pores of the skin, the kidneys, the bowels—and in the same manner an exit is found by the alimentary canal for gas generated by the liver. It may, likewise, find an outlet through the medium of the lungs, passing up the bronchial tubes; and, as in many cases such symptoms transpire where the liver and stomach appear to be in no w
plicated, but are accompar
marked irregularity of the

it is sufficient proof that the derangement of the circulation plays an important part in this disease: and it is here where a knowledge of chemistry will be eminently useful, in making choice of chemicals which tend to decompose such unhealthy secretions, and to enable them to find their normal exit.

CHAPTER VIII.

EPILEPTIC FITS IN RELATION TO GOUT AND RHEUMATISM OF THE HEART.

Circulation—General Ideas—Dr. Wardrop's Opinion—Approaching of Attack—Physical and Mental—Experiments Useless—Heart and Unhealthy Blood—Confirmation of Theory—Correspondence and Cases—Actions Dependent on State of Nerves—Peculiarities of Epileptic Patients—Authors referred to—Epilepsy and Apoplexy—Night and Day Attack—Stoppage of Catamenial Flux—Leeches to the Heart, the Effect of—Epilepsia Sympathica—Hereditary Causes—Dr. Hooper—Premonitory Symptoms—Tremor Cardis—Prevention—Cardiac Derangement—Fresh Research required—Hooper—Specific Drugs—Course of Treatment suggested—Actions dependent on Nervous State—Epileptic Cases—Peculiarities of—In Hospital—and under Private Treatment—Phrenology as a Detective Power—Nervous Derangement, Effects of.

The circulation in relation to the brain.

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Mistaken idea.

It will lead many members of the profession into the erroneous idea that in such symptoms the seat of the disorder is always located in the cranium; and as the brain is inside this curious and wonderfully formed case, every derangement must depend upon its quality, quantity, or formation.

This error is so frequent, and so many bad results arise from the diagnosis not being better understood, that I feel a pleasure in publishing the result of my hospital experience, that unquestionably the seat of affection does not always lie in the state of the brain, but depends on the state of the heart, and the circulation of the blood.

It is gratifying to say, that one application after another that presents itself at the hospital so fully guarantees these notions, that they require no comment.

Symptoms of approach of attack.

Patient after patient, one and all, previous to an attack, complain either of a pain or some oppressive sensation of the heart; some are tender in that region; while to others the room and furniture appear to be turning round, or the floor passing away beneath them: vertigo is the professional term.

Physical and mental.

Some complain more or less of the partial loss of the use of the left arm, days, hours, or even minutes previously: but indications of a fit are generally foretold by some peculiar sensations in the chest, such as muscular contraction or pain extending along the local nerves.

But we must not neglect to remark that some patients feel a sinking sensation in the regions of the heart, only for want of a better tone or action.

The heart will be more feeble and inactive; while to casual observers, just before an attack, the patients will look better in the face, show more colour and brighter eyes, together with an inclination to be more talkative.

Nervous irritation

They will be apt to startle, and to complain of twitchings in the face, hands, or legs, all indicating an unusual nervous irritation; and, accompanied by these symptoms, the heart and cardiac regions are all more or less implicated.

The temper, together with the manner

all point to the same channel as though bad blood was being secreted in the cranium. The pulsation and throbbing in the throat will further indicate the irregularities of the heart's action, under an assumed name, that of "Globus Hystericus," or a throbbing of an aneurismal nature.

The brain, spine, or blood.

The reader will ask, What then is the result of our experience? Is the heart with its apparatus mechanically out of order,—or is it disease of the brain or spine, which is frequently supposed to be the cause of epileptic fits?

In answer to this, I state most distinctly in a few words, that it is to the qualities of the blood, the heart's action, and the healthful condition of the nerves, we must look both for cause and treatment.

Experiments useless when cause misunderstood

To arrive at the proper mode of such treatment, you must get at the healthy state of the blood and general constitution rather than suppose that such fits will yield to any one drug or any quack mode of treatment.

To try hot baths, to try electric baths, to try galvanism, then tonics, then sedatives; first one thing and then another, is only folly, and proves that the cause is misunderstood.

It is therefore the general health and constitution which has to be set in order, and by doing this the heart falls into its normal state.

Now you will say, Why should the circulation affect the head, causing apoplexy by congestion, or epilepsy by the irregularity of the heart's action through the nervous system?

You may ask with equal reason, Why do the tides occasionally overflow their boundaries, and why should they do so in one locality more than another?

The fact is, when the heart becomes disordered it is impossible to say where the overflow or pressure may be. It may be in the heart, it may be in any other part of the body, and cause aneurism; or it may be in the head, and cause fits.

But if you wish to regulate the cause you must regulate the heart and nervous system. If you wish to regulate the

Heart to be relieved of gouty or unhealthy blood.

tides, you must first of all influence the moon, or the spring-tide will continue to overflow.

This is self-evident, as by relieving the heart of that gouty and unhealthy blood that occasionally becomes located in these regions, the circulation becomes more regular, the heart is relieved of the tight oppression complained of, the patient sleeps better, the dead feeling in the left arm ceases, the head becomes relieved of the pressure of blood, and so by degrees the patient improves until cured.

Cases of epilepsy, with remarks in confirmation of theory.

Case after case might be cited, but the following among many may be selected; being of a peculiarly interesting character, as they are not only in direct relation to heart disease, but are indirectly caused by gout and rheumatism; this being the basis of the theory promulgated.

CASES OF EPILEPSY.—WITH REMARKS.

W. B., Fortis Terrace, Kentish Town—His mother suffers from rheumatism, and her sister has epileptic fits.

Mary Ann Smith, 33, Parkes Street,

Cases of epilepsy, with remarks in confirmation of theory.

St. Giles'.—Epileptic, palpitation, intermittent, and irregularity of the heart's action—originally suffered from heart disease.

Mary Ann Piper, 5, Madely Place, Hampstead Road. — Epileptic — father had sciatica and rheumatism.

James Willett, 93, Southampton Street, Camberwell.—Epileptic fits, has rheumatism frequently, and pains in the heart—his father had an apoplectic fit.

Mrs. Garish.—Epilepsy—father had gout and dropsy.

Elizabeth Sims, 6, Wellington Street, Clerkenwell.—Hysteria, rheumatism—father and brother had rheumatism, palpitation, pains in the back, which former medical advisers intimated was neuralgia; this patient has a child epileptic, aged eighteen.

Charles E. Finch, Bromley, Kent.—An average of three epileptic fits weekly—on the mother's side, the mother and two sisters died in an epileptic fit, and her father also; the mother of the was rheumatic.

Cases of epilepsy, with remarks in confirmation of theory.

Francis Edwards.—Epileptic—father subject to rheumatism; his nephew to gout and rheumatism.

Newman Granville.—Epileptic, age 42—father died from breaking blood-vessel in the head, suffered acute rheumatism; mother died at 38; brother had rheumatism, and all children died young.

E. Hurtig, 5, Stamford Street, Blackfriars Road.—Rheumatic—father died from asthma.

Elizabeth Herdman, 2, Herne Hill Road. — Catamenia suppressed, light colour, and has pains in the leg like rheumatism, and pains in the heart—father has rheumatism.

Emily Walcot, 27, Hart Street, Bloomsbury Square.—Hysteria, crying fits of, sudden loss of voice with no apparent cause, eructation after eating; this patient had the year previously a severe cold accompanied by rheumatism—her father suffers from rheumatic affection of the hip joint and leg, also palpitation of the heart.

Francis Edwards, 1, Lewismore Road,

Dalston.—Epileptic, suppressed catamenia—father and several of the family suffered from rheumatism; nephew a martyr to it.

Cases of epilepsy, with remarks in confirmation of theory.

Mrs. Clark, Clarke Spa Road, Muthesham, Wilts.—Neuralgia and sciatic pains—father drowned; had suffered much from rheumatism and sciatica.

Joseph Lee, stone dresser to a miller, 29, Harper Street, Wandsworth.—Describes an unaccountable sensation when walking, loses all action of the mouth; supposed to be rheumatic affection of the heart.

Wm. Jomey, carpenter, 47, Seymour Street, Deptford.—Epileptic fits—father and mother suffered from rheumatism; mother died from apoplexy.

Mary Ann Beater, 38, Glasshouse Street.—Hysteria, from a gouty diathesis—mother suffered from rheumatism.

Eliza Money.—Hysteria, globus hystericus, palpitation of the heart—mother suffered from rheumatism.

Ann Wavil, 3, Market Street, Bromley, aged 13.—Epileptic fits, suffers from rheumatic affection, pains in the cardiac

Cases of epilepsy, with remarks in confirmation of theory.

regions—grandfather died from rheumatism.

Ann Nash.—Epilepsy and heart disease—father died of heart disease; grandmother of fatty degeneration; sister died of heart disease.

George Brown, 22, Dragon Street, Stepney.—Epilepsy, suffers from neuralgic, nervous, and rheumatic affections—father had rheumatism and asthma; mother and sister epileptic fits.

F. K. Saunders, 31, Stanley Street, Queen's Road, Battersea.—Epileptic—sister suffers from rheumatism; had rheumatic fever.

Correspondence relative to interesting case.

The copy of the correspondence as below is so far interesting, that it indicates that the nervous complaint of which the child suffered was caused by rheumatic affection of the heart. She quite recovered from a tonic treatment.

"Glaneirm, Newcastle Emlyn,
"February 19, 1872.

"MY DEAR DR. SPRATT,

"You are so kind about prescribing for the poor people, that I am sure you will not mind bestowing a few minutes upon a poor little patient of mine—who is far beyond my homœopathic practice, or indeed any amateur practice at all. She is a girl of about eleven, who has (I suppose) got 'St. Vitus's dance'—jerks and twitches all over night and day—gets very little sleep—brings back her food—has great pain and swelling in her chest.

"She has had it for more than a year—it followed a sort of rheumatic fever—and the local medical men have tried in vain to do her any permanent good. She was better for a time, but is now very bad again, and, besides giving her wine and other nourishing things, I am quite at a loss what to do for her.

"If you would send me a prescription for her it really would be a great charity, &c., &c.

(Signed) "E. B."

"February 23, 1872.

"MY DEAR DR. SPRATT,

"Many thanks for your kind note. The child I wrote to ask your advice for is ten years old: it is a year and a half since she had rheumatic fever. She has *no* pains in the joints—but swelling of the hands and feet—her chest swells much, and she brings up a quantity of water, and connot retain anything on the stomach but tea and sop, milk, &c. Her water is not thick, but natural. She is very weak and very thin, and is in a most nervous state, starts at the least sound; and the twitching is continued night and day. They are a consumptive family.

"I had better mention that the child's digestion was so wretched the other day, that I gave her at a venture half-doses of the tonic you prescribed for me in the summer, potash, cardamums, &c., and during the time she was taking it, she was palpably better as to her chest symptoms, &c., and sickness—but relapsed directly she finished it. It really will be very good of you to prescribe for this child—it is pitiable to hear her, &c., &c.

(Signed) "E. B."

"April 18, 1872.

"DEAR DR. SPRATT,

"You have made a perfect cure of little Sarah Alban—the girl with the 'St. Vitus' dance'—her whole appearance is changed. She was at church on Sunday, and her mother tells me that she was never better in her life.

"The people are most grateful, I assure you, and the only danger is that the whole parish will expect to be cured by the same medicines of every other ailment that flesh is heir to, &c., &c.

(Signed) "E—Y B———Y."

The foregoing correspondence may be looked upon as eminently satisfactory, embodying as it does a statement of certain phases of a peculiar kind, relating to a disease of no ordinary character, which yielded to specifics and treatment based on a true perception of the latent cause.

Authors state that this complaint is known as a "falling disease" (it is literally so designated from its derivation from the Greek) and that the term "fits" is applicable.

Variety of forms assumed by fits.

But then they present such a variety of shapes that a similarity can invariably be traced between one form and another; such as hysterical, epileptic, or apoplectic: and as errors are constantly made as to the symptoms of these complaints, it would be advisable not to assume a positive opinion, until clear demonstration and decisive proofs are obtained.

Marked difference between epilepsy and apoplexy.

Epileptic patients lose all consciousness, and, during the paroxysm, may have a deficiency of blood in the head, while there is a superabundant tendency towards the heart. While in apoplexy the brain becomes congested with the influx: and hysteria is exhibited in a marked manner, and by general nervousness. Again, our authors state that it is most frequent amongst children; and that boys are more subject to it than girls: that its paroxysms commence more frequently at night than during the day; as if being somewhat connected with sleep.

Hysteria differs from both.

Night and day attack.

As regards these points I would avoid

giving a positive opinion ; this can only be obtained from the immediate cases which come directly under one's notice : but so far as my experience in practice has gone, the number of males and females have been about equal ; few children, in comparison with adults, have come under my care. And night attacks appear, according to statistical accounts, to be, as nearly as possible, equalled by the day.

There is very probably some connection with sleep, or rather with the act of waking from it, in inducing "fits" in subjects predisposed thereto.

Undoubtedly, in waking ; it is then the muscles are brought into play, together with the circulatory system, the heart and the nerves assuming their normal functions. It would thus appear certain that the fit depends primarily on the action of the heart and nervous system.

Stoppage of catamenial flux.

1. *Epilepsia cerebralis* would, I presume, be the term applied to the following case, where the catamenial discharge was suppressed. To some it took the appearance of epilepsy, and to others apoplexy.

Epilepsia cerebralis.

The patient was one of the nurses at the hospital. During the paroxysm the eyes were perfectly turned up; the whites only showing. From the mouth and eyes and nose a red mucous discharge would gush out; while the muscular contractions were such as might have resulted from cerebral congestion; but if so the symptoms were only themselves a result; the primary cause appearing to be a derangement of the heart's action, by the cessation of the catamenial flux.

Relieved by leeches to the heart.

Leeches were applied to the heart; the organs of circulation were relieved, the cerebral functions became tranquillized, and the fits diminished in frequency. This patient had constitutional tendency to gout and rheumatism.

Epilepsia sympathica.

Apparent causes sometimes hereditary.

2. *Epilepsia sympathica* we should be disposed to consider as originating in an indirect channel, being preceded by a sensation of an aura ascending from some part of the body to the head; or sympathetic with some foreign agent in the stomach, such as "worms;" or it might be induced by "teething;" but by idio-*pathic* practitioners it would be classed

as a primary disease, neither depending on or preceded by any other.

It is this term, "sympathica," that is frequently recognized as a basis for treatment, while to many it lies under a shadow, to which I desire to draw the attention of the junior members of the profession, probably with more assurance, as many varied opinions having been expressed, there is a marvellous discrepancy of ideas among them; and would it not be justifiable to state that no satisfactory solution has yet been solved?

My object therefore is not so much to draw attention to the usual causes assigned to epilepsy, but to strengthen and definitively explain its relationship to gout and rheumatism.

First of all, however, it may be as well Hooper. to note briefly the most prominent, as generally recognized by the profession, or they may be termed productive symptoms, viz.: blows, wounds, fractures, and other injuries done to the head, water on the brain, tumours, concretions, convulsions, and tubercle. Violent affections of the nervous system, sudden frights, fits of passion, strong emotions of the mind, acute pains in any part, worms in the stomach or the intestines, teething, the suppression of long-accustomed evacuations, undigested food, emptiness or too great repletion, and poisons received into the body.

Premonitory symptoms.

Though sympathetic epilepsy may be thus defined, it might be justly remarked that previously to a fit the patient will occasionally complain of some preliminary sensations at the chest, though this may not be universally the case.

Tremor cardis.

Prevention.

In a general way, however, he may be conscious of failure of sight, coupled with dizziness and pain in the head, and tightness in the ears: sometimes stupor is felt; but it is more usual for the patient to complain of pain, a sinking sensation, and tremor over and about the regions of the chest; and this last symptom should never be lost sight of, as by this means a paroxysm may be sometimes checked, either by a strong rubbing applied to the patient's chest, or by giving an antidote internally, and thus stimulating the heart.

Attractive and intelligent symptoms.

It has been noticed that in cases where patients are liable to perhaps but one fit per week, their state of mind is nearly quiescent: but those who suffer less frequently—say every three months—become more attractive and intelligent a few days previously to a fit. The eyes look brighter, and in every respect have a more healthful appearance. It is during this state that a patient will extend, diminish, or make a total change in his daily avocations: for instance, he may take some daring step in his business either for good or evil—he may make new friends or quarrel with his old ones, &c., &c.

Temper.

Just so, previous to an attack of gout, an irritable and vacillating temper is generally the forerunner.

Cardiac derangement.

Others will have spasmodic twitchings and pains in the limbs and extremities: and immediately a change takes place in the whole circulation, as the well-known feeling of "aura epileptica" i certain symptom that some turbance is taking place.

During the fit the ey torted, the hands clench the body convulsed and agitated; the tongue protruded, and the saliva stained with blood.

In females the catamenial flux is sometimes discharged at the mouth, nose, and even eyes, so that a definition can be traced with difficulty between this disease and apoplexy.

Loss of all feeling and knowledge of what is passing are invariable symptoms accompanying an epileptic fit.

Marriage.

The re-appearance of suppressed skin diseases, or the results of married life, have been frequently known to make a change both in men and women, in alleviation of the nervo-cardiac system.

Sometimes it is hereditary, and at others it depends on a predisposition arising from a morbid condition of the sensorium occasioned either by plethora or a state of debility.

Difficult to treat hereditary cases.

Professional authors have asserted that in cases where the disease has been hereditary the curative treatment is attended with great difficulty; but while that fact is granted, some explanation of the original cause should be given, and we should not be satisfied with the mere classification as hereditary without a satisfactory data.

But what in the name of common sense is the use of the recommendation of specific modes of treatment if there is no other clue afforded us but that of "hereditary disease," and no distinct explanation as to the immediate cause, without a name?

The previously-mentioned cases which were under treatment are so far interesting that they are not only of an hereditary class, but that they may be traced to the original cause.

Authors have noticed that cases have terminated by the occurrence of a fever, without explaining their nature, and under what circumstances; but we may readily imagine that such hereditary cases, previously drawn attention to, may be dispersed by fever, just as counter-irritation has been known to relieve a nerve from rheumatism; or, as by inoculating the system with one disease to generate another.

In the treatment a resemblance may be found to be judicious: thus what will be suitable for sciatica, is in many respects equally applicable to epilepsy, when derived from the class of cases this work refers to.

General fresh research required.

There has evidently been a want of fresh practical research; and new ideas introduced relative to the subject of the diseases appertaining to the nervous system deserve encouragement, and this opinion is strongly confirmed by Hooper, who says—

Hooper.

"Morbid anatomy has hitherto thrown no light on the proximate cause of epilepsy.

"A vast variety of morbid appearances within the cranium and spinal canal have been recorded and insisted on by different authors as the cause of the disease.

"There is some organic lesion of these parts in a large proportion of cases; but since there is no uniformity in the nature of such lesion, and since, in many cases, there are no morbid appearances at all, it is fair to infer that none of those hitherto observed have any essential relation to the disorder."

He further goes on to state, that during an epileptic paroxysm, little or nothing can be done beyond using such precautions that the patient may not injure himself.

From such propositions we might almost be led to infer that there is a mystery over the whole cause and symptoms of this disease, and that Nature must be left to her own management.

Influence on the heart.

Now I have arrived at one undoubted fact, namely, that friction over the regions of the heart, at the time of a paroxysm, will have an immense influence in recovering the heart's action, and relieving that paroxysm: thus, experience should teach us to pay more attention to those regions than to that of the brain or spinal cord; and we are further assisted on our path to a new course of treatment, that of relieving the heart from the corrupted blood, and are encouraged to administer such medicines, on the same principle, as will give temporary or even permanent relief.

Hooper recommends by way of treatment—

1. Obviating the several exciting causes.

2. Correcting any observable predisposition.

3. The use of those means which are most likely to break through the habit of recurrence.

Parasites.

"E. verminosa," for instance: well, we all know that worms may and do cause epilepsy; and how worms may be treated to a successful result. Parasites are to be treated as parasites: and in suppressed skin diseases an outlet is absolutely necessary to relieve the system.

These exciting causes are notorious, and easily understood and managed, but still they are but few and far between in comparison with the class of cases to which allusion has already been made.

Specific drugs not always to be relied on.

In treatment, many are too apt to rely on some specific drug: young beginners in particular cut matters short by finding out antidotes recently recommended for this or for that; then, finding in practice that the specific which has been useful before is not successful in the particular case they have in hand, they find fault with their tools, just as a bad artist growls at his colours and brushes, forgetting that they have not taken the trouble to work up by observation what produced the effects they have undertaken to cure.

Course of Treatment suggested.

And, therefore, before venturing upon the treatment of a case, its proximate principles should be clearly defined, and while drugs are absolutely necessary in assisting the laws of nature to heal, it is equally of the highest importance that a moral influence should be made use of to relieve the mind, to soothe and tranquillize the nervous system. Thus, by giving confidence, it establishes a determination, and this self-will heals where drugs fail. This method of treatment was known even to the ancients.

If a patient is of too full a habit, it is evident that the quantity of his blood requires diminishing; if, on the contrary, of too poor a habit, the blood should be enriched in quality. While this is being accomplished by drugs, the moral influence of the physician should not be lost sight of, as that is equally necessary as a therapeutic agent or pharmaceutical preparations.

In reference to the treatment of the disease we have in view, several remedies have been suggested; such as the emetic, the purgative, the sedative, the tonic, electricity, and frictions. There is yet one more—the do-nothing system.

A friend of mine of some celebrity as a physician used but half a dozen kinds of drugs; and with these went through a large practice, and was held in high esteem as an accomplished and skilful practitioner.

But there still remains a method which deserves more attention than all these suggestions together. It is this: let the practitioner guide himself by the symptoms clearly demonstrated, leading himself thereby up to the primary cause; then he will have a secure basis. This mode of gaining knowledge requires care, trouble, and experience, but in such hard work we are all too apt to fail.

As regards the relationship of one disease with another, they are sometimes so closely allied that it requires an experienced eye to draw the line. For instance, what will produce hysteria will produce epilepsy; and with every case more or less some similarity is observable.

All eruptions of the skin in animals or human beings are literally skin diseases; just so there is no difference in a pock on the skin and a pock on the lungs, except the danger—as there is no difference between a sane and an insane man, except in their extreme actions.

A balance of power constitutes strength. Extremes thus regulated between mind and body produce health. It is that happy equilibrium we seek—preventing any one action going beyond its normal state.

Actions dependent on state of nerves.

It is unwise to form opinions on the actions of human beings that may be characteristic of certain individuals regardless of their constitutions and state of health; and it is equally advisable before drawing conclusions to borrow a few ideas from the normal status of man's social pursuits.

A man's actions must in a very great measure depend upon the state of his frame, that is, upon his nerves, flesh, and vital organs; and the healthy state, or otherwise, in which they are kept.

Epileptic cases.

Exclusive of the function of the circulation on the brain, the circulation of the blood is in intimate association with the nerves: these two more or less govern each other in turn; so that in epileptic cases there appears to be a peculiar amount of natural sharp aptitude; and a selfish disposition, sometimes strangely exhibited, which originates from some irregularity of the sanguineous system.

It is so far necessary for the medical adviser to be practically acquainted with this peculiarity, that he may explain many unpleasant points to the friends and relatives of the patients thus afflicted; and while he administers advice, he, on his part, obtains valuable assistance in forming the diagnosis between hysteria and epilepsy.

Thus in several wards, where there are half a dozen epileptic and hysterical

Peculiarities of epileptic patients in hospital.

cases, it is somewhat amusing to watch their little peculiarities. One, during the absence of the others, will listen at the key-holes.

A second will put in practice every selfish device to keep what belongs to him. Papers and books he will cunningly put away, so that no one may have the advantage of reading them: while another cunningly sells the liniment the nurse supplies for his chest, as some peculiar hair-oil he has got; though perhaps every patient in the ward is using the same.

Private patients too may exhibit the same peculiarities in endeavouring to gain some silly object, and untruths and misrepresentations are resorted to without hesitation. Thus a patient who was suffering from hysteria explicitly described to her friends, how that more than one medical man had taken liberties with her; and a young lady under the same complaint contrived the means of leaving a family with whom she had been placed to go to another, by complaining that A or B behaved with improper

In these quarters we should place our hands and ears in order to ascertain what relation these sensations have with the heart.

Cause of hæmorrhoidal flux.

Are not some of these sensations felt previous to hæmorrhoidal flux? If so, and the veins can be relieved of the overpressure, is it not logical to consider that a congestion may take place in the head under similar circumstances, and that the patient may get relief by a fit of epilepsy or violent sneezing in lieu of a flux of blood?

The premonitory warning given by Dr. Sieveking deserves repetition; as it would appear to me that the majority of these forewarnings may be attributable to some cardiac functional derangement, in lieu of the seat named for its basis, the brain.

The premonitory symptoms, according to Dr. Sieveking, are—

Premonitory symptoms. Dr. Seiveking.

"Sense of choking and dimness—a sensation extending from the thumb up the arm, with spasm of the latter—headache—a sensation arising from the stomach—a sensation passing from the hand to the head—dimness, and pain in the right arm—pain across the shoulders—loss of sight—vertigo and general stiffness—feeling of illness for half an hour before the fits—head goes round—sense of suffocation and tremors—a momentary warning—dimness—short cough—sickness—lightness of head, followed by oppression—sense of strangeness—pain at stomach and sickness—drowsiness—loss of power in left hand for twenty minutes before the fits—rigors—pains in epigastrium—shaking, and curious sensation in hand—lightness in head—sense of heavy weight—sometimes the fits preceded by a cry—has no premonitory symptoms immediately before accession of fit, but feels spiteful and low-spirited for a day before fit—comes over in a heat for two or three minutes before the fit.

"This list is sufficient to show that there is an entire absence of uniformity in the character of the symptoms; still we gather from it that the sensations referred to the trunk or extremities are much more numerous than those which are described as having their seat in the head."

Suffice it to say that the whole history of epilepsy is confined to the ordinary rules of dogmatic teaching, and to the same old ideas handed down traditionally from age to age; and thus the "aura" holds the undignified position of being everything, and considered as nothing; but in the main, the disease is supposed to originate in the head or about the trunk and limbs, as by some the causa proxima is supposed to diverge from the extremities.

It would be almost better to state that the usual ideas are so vague, that unless some fresh light is thrown on the nature and causes of the disease, the student is left to wander in darkness.

The moon, its effect on epileptics.

The same reasoning that is applied by authors to the cause of the "aura," may also be applicable to the effects of the moon; as though the moon were a direct motive power, or an established cause. While the nurses notice the changes that take place in patients thus afflicted, during the changes of the moon, many physicians repudiate any such influence; as they cannot agree that the moon has any direct effect.

Yet the moon has its influence more or less, not only on the laws of tides, but also to other fields more extended and more important than are generally imagined. Thus the influence of the atmospheric changes may extend to human beings, and the circulation of the blood and the nervous system are most liable to be affected. In the treatment of epilepsy a knowledge of these changes are as necessary as pharmaceutical preparations in a therapeutic point of view.

The influence of a storm on the nervous system.

A lady of plethoric habit could tell the changes of the moon that were taking place; and when a storm of thunder and lightning was threatening, she would announce its approach for a day or two previous to its occurrence; her monitor being in both cases, tendency of blood to the head, and some unusual nervous sensations.

These sensations, therefore, should only be recognized as a medium by the physician, as being attributable to a fit, and not a direct cause.

The neuralgic and rheumatic constitutions are naturally affected by atmospheric changes—one patient will point to the head as the cause of such aches and pains; others to the heart or sciatic nerves, and others again to a general "aura."

But while the nervo-cardiac system is thus implicated by damp and atmospheric changes, by a thousand and one sensations—there is one yet more prominent. It is that of vertigo; and as this is again classed without any clear definition of its history, it may be readily understood to be placed on the same footing.

A symptom of vertigo illustrative.

After tracing hereditary tendencies towards rheumatism, paralysis, and nervous affections, and having drawn the case out before the patient pretty clearly, let us pass from the foot up the sciatic nerve, and rest at the heart. The patient will tell you that when these "feelings" leave the extremities, "the ground appears to pass from under me, and it is only with great difficulty that I can balance myself." This is a clear definition, and should be held in remembrance while seeking for diagnostic signs of vertigo, where debility is not the cause.

Albumen and saccharine deposits, in relation to disease of the heart.

Scarlet fever may be a disease of itself, or it may be allied with other eruptive disease; or rheumatism may be so immediately connected that some resemblance may be traced. In the course of this fever eiplepsy is not uncommon.

The inference may be drawn that epilepsy may be the result of some renal secretions, such as albumen or sugar, as it is not uncommonly held in the urine from the result of pericarditis.

Epilepsy, in relation to rheumatism, illustrated.

May it not also be correct to suppose that fevers generally leave some traces of pericarditis and acute irritation on the cardiac plexus, so as to establish an epileptic fit? And has not all cardiac diseases a marked influence in changing secretions from a healthy to an unhealthy deposit in the urine?

Asthma and anasarca produced from nervousness.

If the mind will upset the cardiac regions so as to produce asthma or anasarca through the nervous system, it may be easily realized that the same influence will produce albumenaria, without any renal disease.

I differ with those of my confrères who advance the opinion that there is no causation or relationship between epilepsy and disease of the heart; and I trust that hereafter many will fall into my views; but still these extracts deserve a place in these pages. Dr. Sieveking notes—

"The heart, the lungs, the liver, the spleen, manifest, as far as we know, no lesion which can in any way be brought into a causative relation with epilepsy. I have not detected any permanent derangement in the heart's action, even in prolonged cases of epilepsy; no relation appears to exist between disease of the heart and epilepsy, as we know to prevail between chorea and heart disease."

But then he quotes Dr. Todd, who says,—

Dr. Todd.

"Many of the epileptic seizures which take place only or chiefly in the night, during sleep, in elderly persons, I have reason to believe have some intimate connection with a diseased condition of heart —an altered condition of its muscles, rather than of its valves."

Thus, though Dr. Todd gives no data from which his ideas can be systematically deduced, still the idea is worth quoting.

Patients coached up with the ordinary productive causes.

Private patients, as well as hospital patients, appear to be well coached up in the various causes nominated as the usual productive influence; this they have gained by practice. But I have met with no one who appears to have the remotest idea that there can exist any relationship between these two diseases.

CHAPTER IX.

GOUT AND RHEUMATISM IN RELATION TO ANASARCA.

Serum—Its Determination to the Brain—to the Lungs—to the Stômach—Concomitant with Heart Disease—Resulting from Irritation—Causes of Irritation—Erysipelas a Source—also Mental Excitement—Symptoms in such Cases—A Case in Point—its Treatment—Another Case in Hospital—Patient discharged cured—Imprudence brought on Relapse, and Death—Valvular Derangement—Bruit in the Chest—Peculiar Cause attributed—Angina Pectoris.

Serum. DROPSY is supposed to be an excess or determination of one of the fluids to some particular part of the body. This fluid is called serum, and it proceeds from, and is furnished by, the serous membranes. This membrane forms the lining of the lungs, where it is called the pleura; around the intestines it gets the name of the peritoneum. In the brain it is called the arachnoid, and at the heart pericardium—that is to say, the bag which contains the heart.

The function which this membrane has to perform is to furnish a fluid to lubricate or oil the part which it covers, and thereby lessen the wear and tear to which the organ which it protects would be subject from friction, &c., &c. And we learn by experience that if anything disturbs its healthy action, one of two serious calamities must ensue—either unnatural dryness, or its opposite, an excess of fluid; either of which, if neglected, would ultimately result in death.

Its determination to the brain.

With regard to the brain, it would produce hydrocephalus, *i.e.*, water on the brain.

To the lungs.

As to the lungs, hydro-pleuritis, or what is commonly known as pleurisy, would be the consequence.

To the stomach.

Its derangement at the stomach results in peritonitis, or anasarca, generally known as dropsy.

Concomitant with heart disease.

While at the heart the consequence

would be pericarditis, eitheir with or without effusion.

Such is a synopsis of the disease called dropsy, according to the opinion of most of my professional brethren.

The cause of all the above-named derangements may be attributed to irritation, or inflammation, which in its turn may take its rise from various sources.

But our present object is confined to rheumatism and gout in relation to disease of the heart, and it must be admitted, as we may see in the article on gout, that it is one of the most fertile sources of inflammation of the organ referred to.

Disturbed action of the heart.

Anything, therefore, which disturbs the action of the heart is apt to cause peritonitis. It is a peculiarity in the nature of the serous membranes, that they have a very tenacious sympathy, and it is one of the distressing concomitants of heart disease that dropsy in some form or other is sure to be present, if not a general anasarca.

This synopsis of the disease designated as dropsy will assist the student in defining a clearer diagnosis for the treatment of one of the most troublesome of all the cardiac affections.

The reader having been thus put in possession of some of the causes, it may be somewhat interesting to give an explanation of some of the principal agents.

It is well understood the classes are of various kinds; if in the head it is designated by one term; if in the liver by another, and so on. I will not, therefore, pursue the subject further than to cite such cases as I believe proceed from the influence of gout and rheumatism irritating the cardiac regions.

Resulting from irritation.

Causes of irritation.

I shall first of all intimate that my notion of dropsy is that it proceeds solely from irritation. It may be produced from a variety of irritating causes: for example, an irritation may be set up by friction; by tying a ligature on an organ; by applying any irritating liniment, and thus causing a blister, and thereby extracting the serum from the crassamentum of the blood as a blister will do. In fact a blister produces a temporary symptom of dropsy on the skin where the irritation is set up.

This will better explain the action of gout on the cardiac regions producing dropsy; and I assert that if this inflammatory action is allowed to remain in any one particular part, that the serum from the crassamentum of the blood will separate, and so the diseases from irritation alone in a secondary form will be kept up by the non-circulation of the clot or crassamentum. This may all arise primarily from the irritation of urates or other foreign agencies in the blood; it may equally arise from any external irritating application.

Erysipelas a source.

Erysipelas also will produce the same effect, and it is not uncommonly translated to the heart, and terminates in dropsy.

There is, however, another cause worthy of notice, which has frequently come under my observation, though my deductions from it may call forth doubt and criticism—that is, where the gouty influence finds its basis in the head.

Also mental excitement.

Thus trouble, anxiety, irritable temper, and sudden emotions will induce a congestion of the blood at the heart and lungs, with the symptoms of asthma, angina pectoris, and organic valvular derangements. These irritating agents, together with the obstructed circulation, separate the crassamentum from the serum and end in dropsy.

Symptoms in such instances.

The following cases will illustrate my ideas, and will go far in the minds of my readers to support this theory. They are but few out of very many that can be traced to the foundation described above; them I have therefore treated with such remedies as influence the component parts of the blood, and, with but few exceptions, with complete success.

A case in point.

A gentleman applied to me for advice, complaining of palpitation and oppression on the chest, gasping for breath, restless nights, choking, and all the symptoms of anasarca.

A few leeches applied to the regions of the heart relieved it materially, by extracting a large quantity of serum. This relief, however, had the effect of causing him at intervals to have some violent

Treatment thereof.

fits of retching, which made him expectorate clots of thick coagulated blood. Immediately after this the heart was restored to its normal action, and he recovered; though he had been suffering for two years previously; long enough it would seem for a permanent organic derangement to have been set up.

It was evident that the seat of the disease was at the heart, and the result was dropsy; but it may be questioned if these symptoms were caused from trouble, or were the signs of the development of rheumatism and gout. One or the other undoubtedly—perhaps both combined—but in my strong opinion attributable to distress of the mind alone. This is so far interesting, insomuch that in practice, diseases of the valves of the heart are constantly brought under our notice; and the various bruits will lead the practitioner to draw his diagnosis from the cases brought before him; but the immediate effect is most difficult to decide upon.

Another case in hospital.

Again: a man at the hospital had been relieved of various symptoms of affection of the chest, indicating that the mental equilibrium had been materially upset by anxiety.

Patient discharged cured.

His difficulty of breathing and oppression on the chest proved that the heart was congested; and not without some implications as to the pericardium. He was treated accordingly; and in due time left the hospital under the full conviction that he was cured, and again followed his occupation as before.

Upon his leaving it was strongly urged upon him not to enter into any family quarrels or arguments; or otherwise to excite the heart by discussions on politics or religion.

He called upon me some time afterwards to thank me for my attention, and believed himself quite well.

Imprudence brought on relapse and death.

However, after the lapse of some months, he again sought advice, under a graver development of the same symptoms which he manifested when he first applied at the hospital. It appeared that he had permitted himself to take part in several serious quarrels, in direct opposition to the strong advice he had received. His imprudence had a fatal result, for he died of dropsy at the heart.

Valvular derangement.

In a valvular derangement, the blood may pass unchecked, and the bruit somewhat resemble the hoarse cooing of a wild pigeon. In such a case under my notice the patient was a fine healthful looking man: no liver, gout, or rheumatic affections apparent. But he tells us that on his marriage, while in the act of caressing his wife, he felt something snap in his chest.

Bruit in the chest.

Peculiar cause attributed.

Thus the overtaxed nervous and muscular system will produce congestion either of gouty, vitiated blood, or it may overstrain a valve, or rupture a vessel. And the congestion of blood, if not relieved, may end in obstruction, causing the clots to separate.

Then angina pectoris or dropsy ensues; or the valve may yield to pressure, and organic derangement take place.

CHAPTER X.

PARALYSIS, OR PALSY.

Known to the Ancients—Origin of Name—How constituted—Recognized Phases—Poisonous Metals dangerous—Hair Dyes not much safer—Loss of Power of Sphincter — Difficult in Cases of Apoplexy — New Field for Inquiry—Heart attack not always Fatal—Heart, Exciting Cause—Cardiac Treatment successful —Treatment described.

Known to the ancients.

Origin of the name.

PARALYSIS was well known to the ancients (derived from the Greek παραλυω, to loosen, or weaken), and is also well known to the present generation, too well known indeed to families subjected to this affliction.

What constitutes it.

Then what constitutes paralysis? It is known by a loss or diminution of the power of voluntary motion affecting any part of the body; the partial or entire loss of the use of a limb; generally one side only is affected. It frequently seizes the lower extremities, or perhaps the arms only.

One side of the face, or the tongue, may be attacked, or the organs of deglutition.

Four phases recognized in the profession.

We recognize in the profession,

1. Paralysis partialis, when palsy attaches itself to some particular muscle.

2. Paralysis hemiplegica, when one side is affected longitudinally.

3. Paralysis paraplegica, palsy of one half of the body—taken transversely, as both legs and thighs.

4. Paralysis venenata, when it arises from the sedative effects of poison.

Palsy may arise from a nervous action of the brain—from injuries to the spinal cord; or it may be occasioned by the metastasis of morbid actions to the head, or by the suppression of the usual evacuations; and by the pressure on the nerves caused by fractures, wounds, or other external injuries.

Men working on poisonous

Opium eaters render themselves subject to this complaint; and those who are occupied among poisonous metals or minerals are unavoidably in constant danger.

metals in danger.

And it may here be observed that the so-called restorative lotions for the complexion, and hair-washes, have often most deleterious effects connected with a tendency to this disease; containing as they undoubtedly do a certain proportion of lead. In fact anything that induces irritation of the nervous system is liable to bring on palsy.

Also' women using hair dyes not much safer.

It is almost needless to repeat what every medical dictionary contains, as to the nervous symptoms; such as the wasting away of the muscles of the part affected; the loss of power in the sphincter and bladder; also failure of sensibility to the touch. The eyes and the tongue may both lose power, and a premature feeble old age may be generated.

Loss of power of sphincter.

Where hemiplegica is a consequence of apoplexy, sanguineous effusion is generally found to have taken place in the brain on the side opposite to that which is paralyzed.

Difficult to treat in cases of apoplexy.

In such a case as this it is generally found an uncertainty also in the treatment.

Thus apoplexy, regarded as congestion of blood in the brain attributable to gout, may be considered as nearly allied to palsy.

Thus far I have repeated what everybody knows, or has known, from the boy in buttons to Hippocrates himself.

New field for inquiry.

But there still remains a wide field for inquiry, and one that demands long and careful research. The common opinion is, that when paralysis attacks the heart (or any vital part indeed), it *must* terminate fatally, and that soon.

Attack at the heart not necessarily fatal.

Now, with regard to the heart, this is by no means invariably the case; it may be deranged by paralysis, and reduced to an extreme state of feebleness corresponding to loss of power of the tongue, fingers, or muscles. And its feeble action sympathizes not unusually with some one or other of the limbs or muscles in a smaller or greater degree, according to circumstances. Referring to the chapter on nervousness (IV.), the result of rheumatism when in relation to the

Great feebleness may exist there as well as at other parts.

nervous system has been pointed out; but it is here where I am anxious to attract the attention of my confrères, where the same affections may be seated in the heart and its regions.

Case of Miss R——.

An interesting case here occurs to me, viz., that of Miss R——: she complained of giddiness and vertigo at intervals, without being conscious of, or being able to assign, any immediate cause. These attacks took the shape of a partial loss of action of the heart, and the whole system was reduced to general inaction.

Suffocating sensations and a difficulty in breathing were likewise experienced.

Paralysis excited solely by heart.

These symptoms are described exactly as represented by the patient, unvarnished by any professional technicalities; and it is so far interesting that it further proves that paralysis in many forms may be excited solely by the heart when in some form, or by some means, it has become deranged; its unhealthy condition being most probably attributable to gout or rheumatism.

This patient, be it remarked, had exhibited signs of anasarca, of which same disease her mother died, having previously suffered from disease of the heart. One great peculiarity in this case may be noticed, namely, that she almost entirely lost the use of the left arm from the shoulder to the fingers, occasionally only the fingers were affected; also by pressure upon the ribs the same effects would be immediately observable, extending down the nerves and muscles of the left arm and fingers, producing a temporary paralysis.

An endless repetition might be continued of cases, at the risk of becoming tedious, but one or two more will suffice to explain all that is required.

Another case.

A patient habitually suffering under various pains confined to the extremities, lost them all suddenly; but at the same time his left arm became paralyzed and the use of it totally lost. It is well worthy of notice that he was cured by application of leeches to the heart.

Cardiac applications successful.

A third case.

Again, a servant of Mr. Wingfield Digby, of Dorset, had occasional attacks of rheumatism, followed by pains and palpitation in the cardiac region—these again were followed by paralysis of the left leg and arm. This patient was also successfully subjected to cardiac treatment.

Cardiac plexus partially paralyzed from rheumatism.

I trust, therefore, that the few remarks I have thought sufficiently interesting to note, will be received with the same good feeling in which they are brought forward, firmly believing as I do, and sincerely wishing to impress upon the minds of my professional brethren and the public in general, that the cause above all others in generating paralysis is rheumatic affection of the nervo-cardiac system.

Another case.

There is yet another case which may possess some interest: it is that of a patient who has the usual symptoms of general paralysis—the brain and several other organs being more or less implicated: the whole having been traced to suppressed gout in relation to disease of the heart. But probably some hepatic derangement had promoted the whole of the disturbance generated.

Very troublesome.

The most troublesome of all the symptoms was the loss of the use of the

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I.

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Definition by Johnson
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-Only Indigestion—Dis-
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-Relieved by Alkalies—
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Common interpretation.

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sphincter ani, and the retentive power of the bladder.

Treatment described.

This patient, Mr. Inskip, sent by Dr. Hunt, was put under a régime of alkalies, with a regular supply of podophiline until the liver was cleansed—and this being followed up by the application of ice to the peritoneum, the symptoms so far improved that the bladder and sphincter ani resumed their normal functions; and the patient, having been partially restored to bodily strength, left the hospital to be further benefited by a sea voyage.

Finally successful.

In this case no medicines had such a marked effect as those external applications which were used in the form of blisters to the cardiac regions, and alkalies to restore the arthritic nature of the blood.

CHAPTER XI.

INDIGESTION AND OPPRESSION ON THE CHEST IN RELATION TO DISEASE OF THE HEART.

Common Interpretation of Term—Definition by Johnson and Temple—Supposed Overloading of Stomach—Consequent Treatment—Case cited—Post-mortem Examination—Oppression after Eating—Brandy—Fatal Result—Further Cases—Only Indigestion—Disordered Circulation—Primary Cause—Suppressed Gout conspicuous—Inflammation—Patients cured—Relapse from Indiscretion—Relieved by Alkalies—Abuse of Soda—Perspiration in the Feet—Remedies—Salt and Cold Water—Consequent Indications of Rheumatism, &c.—and Gout cured by Cardiac Treatment.

Common interpretation.

WHAT is indigestion?* In the eyes of people in general, everything that appertains to a derangement of the chest from the chin to the stomach is termed indigestion.

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* Johnson says it is "a want of concoctive power." Temple says, "The fumes of indigestion may indispose men to thought, as well as to diseases of danger and pain:" and I say that it is a falsely fabricated word, and that it applies to nothing.

If it be thus understood by the public there is every reason that the profession should expose this vulgar error, and should investigate, and if possible explain, the true meaning of the term.

If a doctor or other practitioner sees daily a continuation of the same cases, and is obliged to answer the same old questions, it undoubtedly becomes tiresome, but still that does not justify him in withholding requisite information.

Indigestion embraces a wide margin; everybody supposes that it has something to do with the chest, but few know what it is.

Supposed overloading of the stomach.

Many imagine that it is only an overloading of the digestive organs; and so because they feel puffed or too full, they either eat less or none at all: if they are full of wind they consider that a diminished allowance of food will take up less room; but yet if they only eat a thimbleful, the same sensation is felt nevertheless.

Ordinary treatment in consequence.

Some make that absurd remark, "Oh, I only want physic;" so they get physic.

and take physic; and still the pain remains.

Some resort to brandy and water: well, that perhaps does afford some temporary relief: but the complaint yields not to grog.

Some resort to soda: some to one thing and some to another: but as far as my experience goes, this said "indigestion" does not require any such harsh treatment.

Case cited, and post-mortem examination.

Indigestion does not usually arise from overloading the stomach, for generally those patients who suffer avoid eating; as a proof of this I may cite a case of a gentleman who was a perfect martyr to indigestion, and never ate enough for a bird, but lived on drinking beer and wines. I attended at his post-mortem examination, and his stomach was found entirely empty.

Another case, oppression on chest after eating.

Brandy.

Another gentleman was told that the tightness and oppression on the chest after dinner of which he complained arose solely from indigestion. Some injudicious friends suggested hot brandy and water as a remedy, and two or three glasses were duly administered. He had

Fatal result.

a fit in consequence, and died from the effects.

There is not the slightest doubt but that this gentleman died of disease of the heart; he was drugging and dosing himself for indigestion while the heart had not sufficient power to propel the blood with which it was congested.

More cases to the same effect.

A young lady had a continual sensation of sinking on the chest, accompanied by oppressive tightness and difficulty in breathing. "It used to be only indigestion," she exclaimed, "but now I am told that it is organic disease of the heart."

And another patient tells me, "If I only eat the smallest quantity it causes indigestion, and yet I rarely partake of much food."

Only indigestion.

At the hospital, a patient will say, "Please, sir, I have come to you to cure me of palpitation; it has troubled me for six months." Then upon asking him if he has a tight oppressive sensation on the chest, a dead weight, or a suffocating feeling situated between the two breasts, the answer will be probably, "Oh yes, sir, but that is nothing, I know what that is, I have had that for years; that is only indigestion."

And so the same old tale is repeated. To illustrate, and at the same time to give the reader a better idea of the error that many fall into by mistaking the symptoms for some affection of the heart, I have put a sketch at the commencement of this book to indicate exactly the position of the heart in the chest; so that the reader may have a better idea where the tightness and oppression usual complained of are situated.

Disordered circulation primary cause,

Allowing what is generally termed indigestion to arise from a disordered circulation—as I suppose it to be, judging from what is generally brought to my notice under that name—we must inquire what may give rise to this disagreeable sensation.

and causes of such disordered circulation.

Firstly, in some respects it may be attributable to debility: the heart and chest may be congested with blood, and the heart may labour and throb to propel that with which it is overcharged; this naturally will cause a tight suffocating feeling in the region where the heart is located. Secondly, it may be produced precisely as such symptoms are, from excitement, exertion, trouble, anxiety, or even over-joy; sometimes it is accompanied with a hiccough and excessive wind or flatulency, instead of a throbbing to propel the blood, which is equally an effort of nature. Thirdly, it may arise from rheumatism; this may be easily recognized, if only by earlier symptoms, such as pains probably located in the extremities, the arms, or the shoulders.

Suppressed gout very conspicuous

Fourthly, it may arise from suppressed gout, produced by irritating the cardiac regions by drinking spirituous liquors; or it may arise from constitutional derangements that tend to cause gout, from the slightest irregularities, either natural or induced by any foreign agent.

Thus I find that unquestionably the largest number are derived from this class; and of the sudden deaths that occur in the country, the larger number are caused solely by this state of the heart, and not, as is frequently supposed, from any organic derangement.

Inflammation.

The inflammatory actions that are set up, fix themselves on some vital spot, and so stop its action, and then death ensues.

Patients cured.

While promulgating these opinions, it is not without the benefit of some years of practical experience and close application; and there is no exaggeration when I mention that I have seen numbers leave me three parts cured, absolutely making a joke of their rapid improvement—often indeed being quite cured—and on a relapse taking place, months after perhaps it was discovered that they had resorted to some other mode of treatment and diet, diametrically opposed to that which I had endeavoured to instil into them, viz.: to disuse ginger, soda, and spirituous potions, and to reject any advice but such as tended to strengthen the heart and cool the blood. We all know that by letting a horse over-feed himself with hay and water, and gallop him afterwards, he will be very likely to become broken-winded; this somewhat resembles indigestion, its cause and effects.

Relapse from indiscretion.

Under such circumstances, indeed, indigestion would appear to be something more like the want of a proper circulation.

The heart being situated in the middle of the chest, and not propelling the blood, gives an oppressive feeling in this locality.

And it is well known that a gouty constitution is liable to indigestion, which even attacks the robust; and if this inflammatory action is situated in the regions of the heart, it is not impossible but that it might produce the effects mentioned.

To be relieved by alkalies.

Is the patient then to resort to spirituous liquors? to purgatives? to stimulating peppers and spices? I say no; but that the disposition to gout must be relieved by such alkalies and such drugs as not only improve the state of the blood, but tend to circulate the fluid.

Abuse of soda.

But well-established errors are difficult to eradicate, and in such cases as I have mentioned soda is frequently resorted to until a washing tub is made of the patient's inside.

Such means increase instead of decreasing the patient's indigestion; as *they* set up more debility and more irritability, and in fact their effects result in nothing more nor less than one of the symptoms already mentioned, viz. : an extra irritation of the heart, causing a further disturbance of the circulation.

Away then with this false notion as to indigestion! leave off the brandy, the ginger, and the digestive pills; and if the true treatment of the disease be not understood, nature had better be left to herself.

Case of perspiration in the feet.

A patient at Isleworth complained of symptoms at the chest such as I have already indicated. The peculiarity in his case was that before his chest became affected, he suffered from hot, perspiring feet. To cure this he had recourse to the usual family remedies, viz. : bay salt and cold water. He removed the complaint from his feet; but shortly afterwards he suffered from slight rheumatic pains; and ultimately he felt oppression on the chest accompanied by palpitation.

Bay salt and cold water.

Rheumatism, oppression, palpitation, rheumatic gout threatening.

This he was told was indigestion, and he was treated accordingly; but my opinion is that it was a tendency to rheumatic gout, which had been translated from the feet to the heart. The digestion would appear to be something more like the want of a proper circulation.

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Rheumatism, on-

cold application to the feet checked the circulation, and drove the inflammatory action to the heart, thereby producing the symptoms of indigestion.

Cured by cardiac treatment.

He was cured; but only by a course of cardiac medicines that had a tendency to relieve the chest of the pressure of blood that weighed so heavily upon the heart; but if he had been treated with alcohol, digestive pills, soda, ginger, &c., &c., we cannot suppose otherwise than that such irritating compounds would have augmented the symptoms until it became a confirmed case of heart disease.

To have applied sinapism poultices to the feet, so as to keep the inflammation to those extremities, would have been a matter worth some consideration.

I have thus explained that some affections of the chest may be produced from gout, and have cited others of a different character, hoping that the reader may recognize their peculiar features; and that the profession may be more careful in guiding their patients to disregard this vulgar error, and not under false impressions to resort to palliatives: as I am sure that thousands kill themselves solely in this way; being under the impression that the affection of the chest under which they are suffering is only that vulgar and falsely termed complaint —indigestion.

CHAPTER XII.

ALBUMINOUS AND OTHER URINARY DEPOSITS IN RELATION TO DISEASES OF THE HEART.

Disordered Secretions of Kidneys—When implicated with Gout—Deposits indicative of State of Blood—Extreme Treatment to be guarded against—Case of Copious Albuminous Formation—All Albuminous Food forbidden—Liberal Diet allowed—The Sole Legitimate Remedy not always beneficial—Fatal Termination—Gout should be taken into Consideration—Quality and Colour of Gouty Urine—Heart Disease prevalent in Australia—Remedial Measures.

The most profound thinker will be sometimes at a loss to ascertain, in the case of two organs being in close proximity to each other and becoming disordered, which of the two was the originator of the derangement.

Nothing will illustrate this difficulty

better than calling the attention to the subject of the kidneys, the heart, and the mind, when they are simultaneously out of order.

Disordered secretions of kidneys when implicated with gout.

And, in treating diseases of the heart, there is hardly anything that will better assist the practitioner than examining closely into the secretions of the kidneys; as invariably in such cases, when those organs become implicated with gout, the urine is charged more or less with such deposits as deteriorate the quality and derange the component parts of the blood, or otherwise betray indications of what is contained in the blood.

It is very interesting to notice the different changes that take place under such circumstances, when the equilibrium of the heart's action is upset.

We may remark, for instance, that if the patient complains of oppression on the chest, with the usual symptoms already described as indicating a go [illegible] tendency, it is equally necessa [illegible] amine the urine, as even [illegible] stethoscope to the chest.

Deposits indicative of state of blood. Examine secretions; also the heart.

These urinal secretions, if unhealthy, evidently indicate a disordered state of the blood, and, logically speaking, under such circumstances, if the water exhibits bad deposits, the heart should be examined simultaneously, to ascertain whether the blood does not correspond.

In a consultation I had with a friend respecting a case in India of arthritic carditis, we came to the conclusion that it was advisable to tell the patient that it was equally necessary to be careful what he put into his mouth as to guard against how it came out again.

Extreme treatment to be guarded against.

This precious little bit of advice might do very well for India, and would not be at all an unsuitable maxim to repeat before dinner at the mess table; but as regards apparent diseases of the kidneys, and in cases of albuminous secretions and saccharine deposits in diabetes, I have arrived at the conclusion that this rule, if carried to the extreme, which in the treatment of such complaints is not unfrequently done, generally leads to more harm than good. The two following cases will illustrate my meaning more clearly.

Case of copious albuminous formation.

The son of Mr. Henry Goodchild, lately of Stud Farm, near Enfield, now of the Riding School, Brighton, was laid up several years ago with a serious attack of rheumatic fever, and while he was recovering from the dangerous stage of this disease, symptoms unmistakably indicating the setting in of dropsy at the heart began to make their appearance, to the great fear and distress of his parents, and not without some apprehension on the part of his medical advisers.

All albuminous food forbidden.

The great difficulty in the consultation on this case was as to what the child was to live on, as the poor little creature would not partake of any food but eggs.

Now as albumen was passing off most freely by the urine, all food which contained albumen and sugar was strictly and strenuously forbidden, his physicians administering antidotes solely for urinary deposits, regardless of the functions of the heart being out of order.

But as the child was rapidly
strength, and really enjoyed no

Liberal diet allowed.

but eggs, I came to the determination to allow him to have eggs or anything else he fancied, quite regardless of the presence of albumen, or any other deleterious matter.

To this day he is called Bonaparte's Ribs, as I used to carry for him some sweetmeats of that name, of which he readily partook.

Recovery

Being indulged with these childish condiments, and being allowed a diet such as he fancied, my little patient began to feel confidence, gained health and strength, and ultimately quite recovered.

Same applies to drugs.

It may be remarked that the same error occurred as regards the administration of medicines. It seemed to be considered that there was but one rule to be observed—one class of drugs to be administered, one author to be consulted.

The sole legitimate remedy not always beneficial.

Books were brought forward in support of argument; all according to form and order was the correct thing—the old-established formulæ were not to be deviated from: but to all this I strongly objected.

In this case I administered solution of potass and iron successfully; and, with the assistance of leeches to the cardiac regions, together with such medicines usually administered for pericarditis, the albuminous secretions disappeared. In another case probably such treatment might have a fatal result, while supertartrate of potass, or nitric acid, might, on the contrary, have a beneficial effect.

Another case of similar character.

Another case which came under my notice was that of a young lady of good position in society. Though delicate in constitution she enjoyed a very fair state of health generally, but on one occasion being startled, or otherwise meeting with some sudden fright, she supposed that her heart was injured or upset, from the peculiar feeling she noticed at the time in the region of the chest. It may be hinted here, with all due delicacy, that this unfortunate young lady was suffering bitter grief from the breaking off of her marriage engagement, and it was upon this disappointment that she first began to complain of pain about he heart. But she did not for some afterwards call the attention of her parents to the extraordinary quantity of water she voided.

Treatment. Being placed under treatment, analyzing the water every week, in order to discover sugar, was recommended; she was ordered to abstain from all food containing sugar, or into which sugar entered in any combination; the consequence was that her usual diet became very meagre. Changes in medical advice, change of air, and all sorts of changes were recommended and resorted to, saving and excepting the change from her miserable regulation diet to generous living, and all the good things God has given for our use.

This patient naturally grew weaker and weaker. Her appetite, as a result of her diet being restricted to what was unpalatable to her, decreased gradually. And yet with all this the discharge of urine increased to thirteen and fourteen pints daily.

Fatal termination. The heart and blood wasted, and she finally fell a victim to this excessive drain from the blood.

The above will suffice to confirm my strong opinion; which is, that the treatment of such cases merely by diet, or by drugs applicable to deposits from the kidneys, without taking into consideration the condition of the heart, or establishing an equilibrium between the heart and nervous centre, and restoring those functions to their normal state, is mere loss of time, and what is worse, attended by danger to the patient.

As many of my critics will not coincide with the theory that diseases of the renary organs may depend primarily on the circulation and the heart as a point d'appui, it will be just to quote here a portion of a lecture delivered by Sir William Gull, from which a better conclusion may be arrived at:—

Gout should have been taken into consideration.

"Its clinical history varies in every case, according to the organ which suffers most and earliest. In one case, sleeplessness, headache, and other slight brain-disturbances, may be the first symptoms complained of; in another, the altered condition of the heart may first draw attention; in a third, loss of appetite, dyspepsia sickness, and failing digestion are most prominent; in a [illegible] diuresis; in a fifth, a liability to bronchitis [illegible] physema; in a sixth, a state of general [illegible] some emaciation, &c.

"These various phases, separately [illegible] the earliest ailments for which the physician is commonly consulted. They are for the most part vaguely referred to a gouty condition; and it must be admitted that the general morbid state of which we are speaking, though distinct from gout, is especially common in those whose ancestors have been gouty. It is often more erroneously referred to suppressed gout. This is less appropriate, since, except the vague flying pains to which such patients are liable, and the occasional deposit of uric acid, or urates in the urine, there have often been no phenomena which could properly be termed gouty.

"In a large number of cases which come daily before the physician, no doubt the disturbances in question are no more than a mere variation in the general equilibrium of nutrition, which, by due care as to diet and exercise, and the other general conditions of health, are easily corrected; but in a considerable number of persons they are the early signs of a general change in the vascular area, of which disease of the kidneys may or may not be an early and prominent part.

"And here I may refer to the evidence supplied by the urine at the outset of chronic Bright's disease, with contracted kidney. Hitherto it has been the habit of the clinical physician to take the specific gravity of the urine, and to test it for the presence of albumen: should the specific gravity be normal (1020 to 1024), and should no change in the fluid be produced by heat and nitric acid, whatever ailments have been present, they have not been referred to the early stages of Bright's disease, but have been explained, as I have said above, by reference to some gouty condition, or to some limited change—functional or otherwise—in the part complained of: for instance, if in the stomach, to the food taken; if in the chest, to catarrh from cold. If flying pains have been complained of, they have been referred to neuralgia or rheumatism; if headache, to overwork, &c. But, assuming that we have to do with a case of coming Bright's disease in so early a stage, the following may be considered as not uncommon clinical conditions. The heart may be even already thickened, so far as to produce an increased impulse over an increased area. These signs of hypertrophy are somewhat more obvious, as already there may be a loss of subcutaneous fat, and, although not very marked, a further distinct loss of weight.

> "In a case that lately came before me, the patient, a gentleman aged fifty-three, although he made no mention of emaciation, yet, when questioned, said his weight had declined within a year from fourteen stone eleven pounds to thirteen stone eleven pounds. Cardiac hypertrophy under these conditions may have no connection with valvular disease. Indeed, at an early stage both the loss of weight and the hypertrophy of the heart may easily be overlooked; the hypertrophy especially, as the cardiac sounds may have undergone no change, or only a slight loss of distinctness in the first sound.

The changes which all kinds of food undergo in the various mills provided by nature regulate and produce the different deposits in gouty constitutions. And if this grinding apparatus, so to term it, be out of order, the incrementitious and excrementitious processes must accompany or precede the local inflammation.

This might precede an attack only a short time; or it might be present alone many months or years; or again, the derangement of the digestive system might exist for a long period before any local inflammation sets in sufficiently characteristic to establish the arthritic nature of the malady. For this reason the common saying, that "gout is generated in the stomach," is not altogether without some foundation in fact.

Acidity and flatulency, and the irregularities of the alvine evacuations, in quantity and quality, are characteristic symptoms of gouty dyspepsia, beside unhealthy secretions from the kidneys.

Quality and colour of gouty urine.

In most constitutions where gout supervenes, the urine becomes much changed.

Not unfrequently it becomes as dark as Betts's patent brandy; and usually deposits a thick "lateritious" sediment.

Also it will be found to contain urate of soda and phosphate of lime; and these will vary in quantity before or after the gouty paroxysm.

Phosphate of lime may be found in the kidneys, as well as in the coats of the arterial system; but this earthy salt has not hitherto been detected in the joints or in the blood; but only urate of soda is excreted by the synovial membrane, and found in the venous blood.

In a therapeutic point of view it is very necessary to know that the quantity of uric acid and phosphate of lime contained in gouty urine, greatly depends on the food. These substances may be increased or diminished, according to the quantity and quality of the animal food consumed by the individual.

Heart disease prevalent in Australia. The reason.

This may be one reason why heart disease is notoriously so prevalent in Australia, where animal and highly azotized food is the principal article of diet, whereas gout is scarcely known amongst those who live chiefly on vegetable food.

When carnivorous animals are fed on vegetable food alone, no uric acid is found in the blood.

Uritate of soda has been known to be excreted by the skin. Baths under such circumstances should hold an important position in the eyes of the student as a therapeutic agent.

It must be universally acknowledged that in gout the blood is vitiated; therefore it is legitimate to infer that such blood circulating through the heart is sufficient to cause any disturbance by irritation alone. And it may be remarked that before any disease in the joints appears, some disturbance in the heart is almost invariably recognized.

The kidneys are an important outlet for excrementitious matters from the blood, more especially in the more advanced cases of gout, where a sero-albuminous fluid is infiltrated in the cellular tissue, or collected in the serous capsules of the heart.

Remedial measures.

To correct the vitiated condition of the blood, in affections of the heart arising from such causes, should be one of the primary objects of the medical adviser: it is a mere waste of time for him to endeavour to treat such a case mechanically by palliatives, or by such medicaments as merely tend to alleviate the palpitating and throbbing sensations.

It would appear, then, that gouty affections of the heart are somewhat more or less produced by some foreign agencies irritating the blood; and in seeking for remedial measures such drugs should be selected as are discharged by the skin, or through the alimentary canal.

CHAPTER XIII.

AFFECTIONS OF THE BRAIN IN RELATION TO DISEASES OF THE HEART.

Resemblance of the Circulation to Tidal Laws—Government of the Organs—Dr. Wardrop—Spinal Cord—Arteries illustrated—Unity of Brain with Spinal Cord—Weight of Brain—Supply of Blood—Carotid Arteries—Long and Short-necked Animals—Disorders in the Head—Tortuous Course of Vessels explained—Veins of the Brain and Spinal Cord—Ample Means for Flow of Blood from the Head—Cerebral Pulp—incompressibility of—Summary of Preceding Subjects.

It would be quite unreasonable to suppose that any student or philosopher who has made a study of the heart and its power of propelling the venous and arterial blood can have any knowledge of its mechanical action, without recognizing its influence on other organs.

In a previous chapter attention was

Resemblance of the circulation to the tidal laws.

drawn to the similarity existing between the ocean and the tides of nature, and the heart and circulation of the blood; and further, how, at stated periods, the streams would overflow; and that hence from one circumstance or another every organ must be governed in a similar manner.

As to the circulation of the blood, the similarity may be easily defined—we have the arterial and venous streams which are, so to speak, oceans, rivers, and tides, influenced by the moon and changes of the atmosphere, and consequently, according to the state and changes of these mediums, the whole mechanism of our frame is regulated.

Government of the organs.

All the wheels are set in motion by some propelling power, and there is none more remarkable than that existing in the kidneys, lungs, and especially the brain; and it is interesting to notice how all these organs can be regulated, as the pendulum of a clock controls the hands, by tranquillizing the action of the motive organ and propeller of the vital streams of nature.

It is not necessary to lead the reader

to suppose that I am the sole originator of these ideas, and inasmuch as we are told that there is "nothing new under the sun," it would be difficult to trace their original source. It may be said, however, that in the works written by Dr. Wardrop, *he* has thrown a vast amount of new information into the scale of knowledge, which is being balanced by the medical profession of the present day.

I am simply desirous of assisting, by adding my own ideas to those of others, according to the latest and best authorities, and ventilating a common error, viz.:—"that every affection of the mind must and does depend upon the brain."

These remarks are, therefore, made to impress upon the reader the possibility that grave errors of judgment may have been committed, and that many a poor creature may have been caused to suffer on that account, viz.:—from the treatment of the result, instead of the investigation of the cause.

With reference to this subject, in preference to promulgating my own ideas, I give a copious extract from the work of

Dr. Wardrop, as an authority of the very highest class.*

"Anatomy reveals a circumstance in the circulation of the *spinal cord* which is equally essential to be borne in mind, whilst prosecuting our pathological investigations on the nervous system, as that which I have already mentioned in the arterial circulation of the brain; though I am not aware that this important structure has ever been noticed by those ingenious physiological inquirers who have of late years bestowed so much assiduity in investigating the functions of the cerebro-spinal system.

"The interesting anatomical fact to which I allude is, that the very same physical arrangement which is resorted to by the economy for securing a regular supply of blood to the brain, also fulfils a similar office to the spinal cord: and consequently that the spinal cord, like the brain, must be influenced by disturbances in the action of the heart; and hence, too, will arise another assemblage of *symptoms* in the diseases of the heart, and which I will endeavour to point out, are as important an addition to semiology as those derived from the brain itself.

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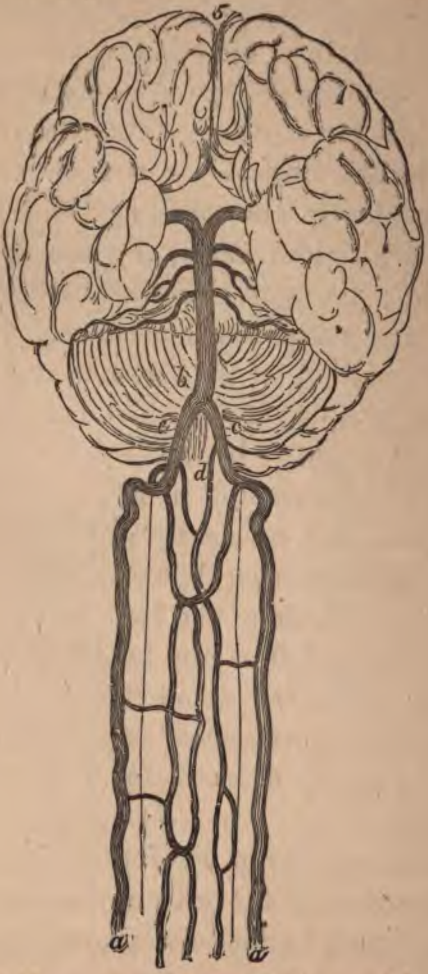
* See Wardrop on "Diseases of the Heart."

"It had been shown, and the parts were accurately delineated, by Haller, that the whole prolongation of the spinal cord from its exit through the cranium to its termination in the *cauda equina*, is supplied with blood chiefly by the *spinal* arteries; the spinal arteries coming off from the vertebrals immediately after these vessels enter the *foramen magnum* of the occipital bone. But the spinal cord, it ought to be recollected, like the brain with its carotids as well as with its vertebrals, has, besides the spinal arteries, small anastomosing branches from the parent trunk, from the intercostal, from the sacral, and from the lumbar vessels; so that any interruption to the circulation of the spinal arteries may be compensated for by a supply of blood from these other channels.

"This peculiarity in the arrangement of the arteries of the cerebro-spinal system is illustrated by the accompanying figure. The two vertebral arteries *(a, a)* ascend parallel to the spinal cord, which is represented in dotted lines, pass over the

Arteries illustrated.



cerebellum, and inosculating with each

other at *(b)*, where they form the basilar artery. A little anterior to the union of the vertebral arteries, two branches *(c, c)* and *(d)* come off from each trunk, which form the anterior and posterior spinal arteries.

Unity of brain with spinal cord.

"The spinal cord, like the brain, is therefore supplied with blood almost entirely by arteries, the circulation through which can never be interrupted from any movement of the adjacent muscles; whilst at the same time, like the brain, it must be readily influenced by every disorder in the action of the heart.

"The circumstance of the whole *cerebro-spinal* system being supplied with blood from the same channels, so that the circulation shall be always modified in both of the great nervous centres at the same moment, and whenever there is any change in the action of the heart, is a fact highly important to physiology, and will materially assist in explaining the intricate association in the functions of these two subdivisions of the nervous system; whilst it will also elucidate many interesting pathological phenomena. Thus too, we have obtained an additional proof of the unity of the brain and spinal cord, as one great nervous system; and we can now explain how, in many disturbances of the heart, such as those which accompany febrile diseases, the two nervous centres, with the nerves emanating from them, are so often simultaneously affected.

"Although these peculiarities in the distribution and in the course of the arteries of the cerebro-spinal system have been long known, yet the purposes which they serve in the economy have certainly not been at all understood; nor, indeed, could they ever have been conjectured, far less satisfactorily explained, until the *musculo-cardiac* function was demonstrated. And it is remarkable that ever since the peculiar course of the arteries of the brain was first described, up to the present period, physiologists should have, one after another, been satisfied with giving nearly the same unphilosophical explanations of the purposes of this singular vascular distribution; some conceiving that the osseous canals through which the vertebral arteries pass, merely serve the purpose of a defence, and others conjecturing that this peculiar arrangement was intended to prevent any undue increase in the size of the vessels.

"Besides these peculiarities in the distribution of the vessels of the brain and spinal cord, all which are intended for securing to those organs a regular supply of the vital fluid, it is also of importance to notice the proportionably large quantity of the mass of the blood which goes to the cerebral system, as this will assist in explaining how that system should be affected, more than any other, when the functions of the heart are disturbed.

Weight of the brain.

"For, if Haller's calculations be correct, or if it be even an approximation to the truth, that the weight of the brain is about seven pounds in a body weighing two hundred pounds, and that one-sixth of the whole mass of blood goes to the brain, then the brain must be supplied with nearly five times more blood than any of the other parts of the body.

"Having said thus much on the anatomy of the vertebral arteries, and adverted to the unsatisfactory opinions that have been offered of the purposes of their peculiar course and mode of distribution, it may be fit, also, to draw the attention of the reader to some peculiarities in the *carotid* arteries; for it must appear strange that, if such decided means were required in order to ensure an uninterrupted circulation in the vertebral, the carotid arteries should be so much exposed to external injury, and their circulation to so many interruptions from the contractions of the muscles of the neck.

Requisite supply of blood.

"It seems, however, that the same protection to the circulation so requisite for the vertebrals, is not wanted in the carotids, although a larger proportion of the blood which goes to the brain is supplied by the internal carotid arteries. The external carotid is distributed upon the neck, the face, and the external coverings of the brain; but the internal carotid conveys to the brain a large tributary stream of the vital fluid; but of so little importance is the supply of blood by the carotids to that of the vertebrals, in animals, that, when a ligature is placed on one of these vessels, no particular symptoms supervene; and even 'when both carotids have been tied the animal neither died nor appeared to be very uneasy.' Whereas, when the vertebral arteries of rabbits are compressed, it is followed by instant death.

"Before concluding these remarks on the peculiarities in the arteries of the brain, and which I have deemed it essential to bring together in conducting our inquiries on the pathology of the heart, there are likewise some peculiarities in the structure of these vessels, and in their mode of distribution after they have entered the cranium, which are here worthy of notice.

"'All the branches of the cerebral arteries contained within the skull have a thin, solid, and more brittle substance than the other arteries of the body;' and as the size of these vessels cannot be much diminished, from the incomprehensible nature of the cerebral pulp, they do not require to possess those powers of dilatation and contraction like the arteries of the external and soft organ.

Carotid arteries. Their size in proportion to mental cerebrum.

"Comparative anatomy assists us in this, as in most other physiological inquiries; and it appears that, throughout the different races of organized beings, the magnitude of these two sets of vessels —the carotids and the vertebrals—always has a certain ratio with the brain of the class of animals to which they belong. In proportion, therefore, as the interior or intellectual part of the cerebrum is small, so we find the size of the carotids diminish; and, on the other hand, as the anterior portion increases, so the carotids become large.

The proximate proportion of long and short necks. Bichat.

"And 'it has been made a general remark,' observes Bichat, 'that animals with long necks, in whom the brain is necessarily far from the heart, the heart cannot excite the brain so vigorously; their intelligence is more limited, consequently the cerebral functions are more narrowed. On the contrary, those animals who have short necks, and consequently in whom the brain and heart more closely approach, commonly have a corresponding mental energy. Mankind, who have the head placed far above the shoulders, compared with those in whom it is very close, sometimes offer the same phenomena.

"'A Roman emperor, to show the certainty of his hand, did shoot a great forked arrow at an ostrich as she ran swiftly upon the stage, and struck off her head; and yet she continued to race a little way with the head off.'

"Further, as each of the cerebral vessels supplies different portions of the brain—the internal carotids conveying the blood to the anterior, and the vertebral arteries supplying chiefly the posterior lobes, the cerebellum, and the spinal cord—it may be anticipated that whenever the circulation in any one of these vessels, or pairs of vessels, is disturbed, different symptoms will be manifested, according to the portion of the brain which is supplied by the particular artery.

"When inquiring into the peculiarities of the arterial circulation in the cerebro-spinal system, we should not omit noticing those of the *membranes* by which it is surrounded, as their vascular connections must have a considerable influence on some pathological phenomena.

"Now, we find that the same provisions which are employed to secure a due proportion of blood to the brain, are also found in the *dura mater*, that membrane being supplied with branches from both the external and the internal carotids, and also from the vertebral arteries. And in a similar manner the coverings of the spinal cord are supplied with blood as the cord itself, branches from the spinal arteries, and from the intercostal, lumbar, and sacral arteries, being all ramified on these membranes.

"The fact that the *fibro-cartilaginous* matter is altogether wanting in the cerebral arteries serves to illustrate some of the pathological characters of these vessels, and how they are influenced in so remarkable a manner when the functions of the heart are disturbed. This peculiarity in the cerebral arteries is, that they are reduced to capillaries before they enter the cerebral pulp; and John Hunter was of opinion that they do not anastomose in the substance of the brain—a very probable circumstance, as it points out the use of anastomosis in other organs of the body, and that such a vascular distribution could not be required within the bony cranium.

"From the very peculiar arrangements and distribution of the vertebral arteries which have been pointed out, it appears to me legitimate to conclude that, inasmuch as means are employed by the economy to provide the brain and spinal cord, in the healthy condition of the body, with a uniform supply of blood, so it must happen that, when the regularity of the heart's functions is disturbed, the nervous system will suffer more than any of those for the due performance of whose functions such regular supply of the vital fluid is not necessary, and hence it is that many of those disorders which are so frequently supposed to commence in the head are, in fact, caused by a disordered heart. On such grounds I shall hereafter endeavour to account for the unnatural sounds, false images, vertigo, inability to balance the body, and various disturbances in the functions of the cerebro-spinal system, which so frequently, nay almost invariably, accompany diseases of the heart; and all

Mental disorders in relation to disease of the heart.

these changes which take place in the functions of the nervous system from a disturbed circulation, become useful diagnostic symptoms in diseases of the heart, as well as serve to establish a rational system of treatment.

Tortuous course of vessels.

"Besides the explanation I have now offered of the important use which is derived from bony canals for the passage of the vertebral arteries, I also apprehend that a very different purpose than what has been hitherto conjectured is served by the *tortuosities* of these vessels, as well as by the tortuous course of the internal carotid arteries before they enter the cranium.

"That such tortuosities in both these vessels can materially alter the velocity of the current of the systemic blood before it enters the brain, as has been usually supposed to be the effect of their serpentine course, is not the case; for it is clearly demonstrable, that even very considerable bendings in a tube cause so little diminution in the velocity of the current of a fluid passing through the tube, that such a diminution is scarcely calculable, and is not even taken into account by practical engineers. Any such explanation of the use of the serpentine course of the cerebral arteries is, therefore, quite untenable, and we must look for some less objectionable explanation of this peculiar vascular arrangement.

Explained.

"To me it appears that the tortuous course in the arteries of the brain is solely intended to prevent the additional pressure which would be caused upon the brain by the weight of the column of blood, when the head is bent downwards, were these vessels perfectly straight. I have already noticed that in some of the lower animals, whose habits require the head to be kept for a long time in a bending position, still further means, besides a serpentine course of the vessels, are resorted to for performing a similar office in the circulation. In the graminivorous tribe I have mentioned that we find the carotid arteries form a *plexus*, dividing into numerous branches, which afterwards reunite; and in diving birds, whose heads are often placed downwards when the animal is in search of food, there is a vascular plexus in the ophthalmic artery which as in the graminivorous animals, will counteract the additional pressure of the column of blood on the eye, which would necessarily be produced from that attitude of the head.

"This is, no doubt, the chief function which is derived from the tortuosities of the internal carotids, although a further use, an additional purpose, I am inclined to believe, is obtained from the curvatures in the vertebral arteries.

"In their passage along the vertebral canals, until they reach the second cervical vertebra, these vessels cannot be influenced by any movement of the spinal column, for there is no degree of rotatory motion in the lower cervical vertebræ, but merely a slight gliding or sliding motion obliquely backwards or forwards. When, however, the vertebral arteries reach the second cervical vertebra, and make two turns before entering the *foramen magnum*, these turns are so directed that whatever movements are made by the head on the first vertebra, or by the first and second vertebræ on one another, the arteries form their bendings, can never be injured by such movements, nor can the passage of the blood through them be at all interrupted.

"There is another peculiarity in the internal carotid arteries, besides their tortuosities, worthy of notice here, and which, as physiological science advances, may explain some pathological phenomena which we do not yet comprehend. No sooner have these vessels entered the osseous foramina destined for their passage, and penetrated into the cavity of the skull, than they ascend to the *sella turcica*, 'where they are naked and bathed in the blood of the cavernous sinus.' What purpose this serves in the economy has never been even conjectured, though it be impossible to doubt that this singular arrangement performs some important office.

The natural passage of the arteries and nerves yet more plain.

"And the circumstance of a small branch of the sixth pair of nerves, which commences the great sympathetic nerve, being also bathed in the blood of the sinus, renders this structure still more remarkable.

"The *veins* of the brain and spinal cord exhibit peculiarities in their structure and arrangements, no less remarkable, and of no less pathological importance, than those of the arteries; and the symptoms in disorders of the heart, which are manifested by changes in the venous circulation of the nervous system, form a class of no inconsiderable value.

"Whilst various contrivances are employed to secure the cerebro-spinal system, having at all times a due quantity of arterial blood, there are means equally ingenious in the venous system for the purpose of securing a free transit of the venous blood, and thus ward off the evil effects of an over-distention in the sanguiferous system of the brain and spinal cord.

"The number of the veins of the brain and spinal cord is infinitely greater than that of the arteries. They have innumerable anastomoses; and, like the veins of the lungs, liver, and kidneys, they have no valves; neither do they accompany the arteries, nor have their great trunks the common structure of other veins. The firm unyielding walls of the sinuses, and the vast number of veins which modern anatomists have discovered embedded in the *diploe* of the cranium and bones of the vertebral column, are all striking peculiarities in the character of the veins of the nervous system.

"All these peculiarities in the structure and arrangement of the venous system of the brain and spinal cord must, undoubtedly, have some adequate offices to perform in the circulation. The great number of the veins, the freedom with which they anastomose, the unyielding walls of the sinuses, and their passage through the middle of the bones, must afford ample means for the blood, under all circumstances, to escape from the head; and, as was observed by Haller, 'no violent symptoms follow upon tying a vein, however large, or even both the jugular veins.' Hence it may be remarked, that whilst, on the one hand, the most ample means are taken to secure the cerebro-spinal system being supplied with a due quantity of arterial blood, on the other hand, an extraordinary facility is afforded to the return to the venous blood.

"Besides these peculiarities in the structure and arrangements of the cerebral arteries and veins, the prolongations of the *dura mater* ought likewise to be taken into consideration. These prolongations are calculated to prevent one portion of the brain pressing upon the other in the various positions of the body, and from compressing one another when the brain happens to receive any concussion; and to avert such accidents we find that in the swiftest quadrupeds the cerebrum and cerebellum are separated from each other by a bony partition.

The aggregate contents of the Cranium.

"Though it may have been satisfactorily shown that the cerebral pulp itself cannot be compressed, it must not, however, be concluded, as some physiologists have done, that the aggregate contents of the cranium must always be the same. However small may be the degree of that incompressibility, the phenomena of diseases seem to prove indisputably that changes in the quantity of the contents of the cranium do constantly take place, notwithstanding the incompressibility of the cerebral pulp. The communication of the bony cranium externally, by the *foramen magnum* of the occipital bone, as well as by the lesser foramina through which vessels pass, must permit the blood which is contained in them to be altered by the atmospheric pressure; and, although such compression must be very limited, still a slight change is, we know, quite sufficient to influence the brain, of which many illustrations are seen in diseases and in wounds and injuries of the head.

"The arrangements to which I have alluded in the cerebral arteries of some animals, where these vessels are formed into a *plexus*, in order to prevent the pressure of the superincumbent column of blood upon the brain when their heads are placed downward, afford a negative but no less convincing proof of the compressibility of the contents of the cranium; for, were these incompressible, such a vascular distribution could not have been required.

"I need say little as regards the circulation of the *ganglionic* system, for, however complete that system may of itself be as regards the disposition of its nerves, yet, as those nerves which form it are all connected with the *cerebro-spinal* system, they will be influenced by all those modifications in the circulation which influence the brain and spinal cord. So that we are led to the important conclusion that the circulation of the blood in the great nervous centres is in all of them regulated and modified by the same causes.

Summary of preceding.

"Reviewing all these peculiarities in the circulation of the blood in the *cerebro-spinal* system, there are several points in the anatomy to which I have alluded that may be briefly recapitulated; these being equally interesting to the physiologist as they are important in affording a satisfactory explanation of many of the symptoms in diseases of the heart, and of the cause of many disorders of the nervous system.

"1st. We have seen that the brain and spinal cord are supplied with a larger quantity of blood than any other part of the body of an equal bulk.

"2ndly. That the cerebro-spinal system

is supplied with blood by the internal carotid and vertebral arteries, but the two carotids being larger in their calibre than the vertebrals, supply the greatest proportion of the blood.

"3rdly. That the circulation of the blood in the vertebrals is much less liable to interruption than in the carotids, special means being resorted to for securing the free passage of the blood from the heart to the brain, by osseous canals for the course of the vertebral arteries.

Disorders of the nervous system in relation to disease of the heart.

" 4thly. That, as both the brain and spinal cord are supplied with blood by the same channels, the whole nervous system may be simultaneously influenced by changes in the action of the heart.

" 5thly. That a regular and equal circulation in the nervous centres is secured, not only by a free inosculation between the internal carotid and vertebral arteries, but also by the trunks of the two vertebral arteries joining together on entering the cranium, and afterwards subdividing ; by which the circulation in all the cerebral branches of each of these vessels must be rendered uniform.

"6thly. That the brain and spinal cord are not only supplied with the blood both of the vertebral and internal carotid arteries, but these vessels freely anastomose with the arteries of the external parts of the head and trunk, which anastomosis further secures a regular supply of blood to the whole cerebro-spinal system.

"7thly. That the veins of the brain and spinal cord, like the arteries, are so placed and constructed that no external causes can prevent them from duly performing their functions; and they are always able to receive any superabundant blood, and fulfil this office without causing any pressure on the cerebral pulp.

"8thly. That the two spinal arteries are formed by branches from each vertebral trunk, thus securing the regular and equal distribution of the blood in the spinal cord.

"9thly. That the tortuous course both of the vertebral and internal carotid arteries, before entering the head, prevents any disturbance of the circulation when the head is in a depending position, by taking off the weight of the superincumbent column of the blood.

"10thly, and lastly. That, as the different portions of the brain and spinal cord are supplied each by branches of different trunks, the symptoms which accompany disease of the heart will differ according as the circulation is changed in one or other of the cerebral arteries."

CHAPTER XIV.

FOREIGN AGENCIES IN THE BLOOD.

Supplies taken into the System—and parted with—Equilibrium destroyed by Disease—Deficiency in Elements of Food—Fibrine—Thrombi—Nature and Effects—Croup, Probable Cause of—Cause and Effects—Anæmia—Precursor of Atrophy—Dr. Watson on Changes of the Blood.

Supplies taken into the system and parted with.

IN the course of a single year a healthy adult receives air and food and water to the average aggregate of 3000lbs. (2240 lbs. = 1 ton), while during the same period of time he loses by urine and fæces, by transpired and expired matter, the same enormous amount of material.

In infancy and youth the receipts are greater than the expenditure, and hence there is a proportionate increase in weight.

But in old age this rule is reversed, and then, as with the improvident, the means of repair become at length exhausted.

The equilibrium destroyed by disease.

Disease constitutes similar irregularities of the constitution; the general condition of the equilibrium being upset, the balance becomes thus destroyed, owing to the useless or poisonous agents generated within the system not being removed, steadily or speedily as required.

Deficiency in element of food fatal. Equally so injurious matters in blood.

It may be useful to premise that as disease and death can arise from certain elements being deficient in the food, which elements are necessary to the healthy nutrition of organs, so equally disastrous results will ensue from injurious matter being retained or introduced in the blood. It may be noticed that inflammatory disorders remarkably modify the composition of the blood, diminishing the albumen, doubling the amount of cholesterine, and increasing the quantity of fibrine to as much as even 10 parts in 1000.

Fibrine.

Thrombi, nature and effects.

The cause of thrombosis, embolism, has long since been proved by many independent observers; when the blood contains, either absolutely or relatively, a great excess of fibrine (hyperinosis), or when this fluid gets contaminated by the introduction of foreign particles or other impurities, as well as when there exists any obstacle to the normal circulation, then fibrinous formations may take place in the heart at any time during life; in the arteries or in the veins, in the cerebral sinus or in the portal system.

The symptoms which these solid substances (formerly known as polypi) give rise to, are such that their existence can with care be recognized. When a portion of fibrine coagulates in one of the arteries, and is carried along by the blood-current, it will of course be arrested in the capillaries, if not before; when the solidification occurs in the veins, the clot need not necessarily be stopped till it reaches the lungs.

Thrombi or emboli vary in size, from a mass sufficient to obstruct the aorta, to a particle which may enter a capillary vessel; they consist, not only of fibrine, but possibly of a fragment of gangrenous tissue, or perchance of a portion of tubercle or cancer, which has been absorbed.

The formation of a thrombus may act

primarily by causing complete or partial obstruction; the secondary disturbances are twofold: in the first larger or smaller fragments become detached from the end of the thrombus, and are carried by the current of the blood to remote vessels; or secondly, the coagulum softens, and becomes converted into a matter like pus.

These concretions, or blood-poisoning, are most frequently met with in diseases attended with great exhaustion or debility; and they have been especially found in cases of croup, scarlet fever, pneumonia, rigors, anasarca, asthma, &c.

Probable cause of croup.

With regard to some cases of asthma, experience would lead one to believe that death is as frequently due to thrombi, as to simple asphyxia.

The formation of these substances seems also to be particularly favoured by the condition of the blood in pregnancy, and the puerperal state.

Case in child-birth.

A delicate lady, 25 years of age, had such symptoms after the delivery of her first child, that it was believed a small clot had formed on the right

of the heart, though her

neither been difficult, nor attended with more than ordinary hæmorrhage. For six weeks after her accouchement the muscular prostration was so manifested that she literally could not turn over from one side to the other; and when the least attempt was made to raise her in the bed so as to change her linen, &c., the most severe attacks of dyspnœa set in.

Fibrine masses causing death.

The fibrinous masses either form suddenly without the least warning, and at once cause death by obstructing the circulation ; or else they rise gradually, and produce symptoms which creep on insidiously, and last a long time.

Perhaps the right auricle is the most common seat of these clots ; but it can be readily understood that the edges of the valves, as well as the muscular and tendonous cords of the ventricles, are parts to which they readily become attached.

The particles of solid fibrine carried away by the blood from the left side of the heart are usually arrested in the vessels of the brain, [illegible] or kidneys ; *while* those from th [illegible] ass by the pulmonary artery and its branches into the lungs.

Anæmia—its cause and effects.

As regards anæmia, or poverty of blood, palpitation, with hurried breathing, this panting dyspnœa is easily explained, on the supposition that the blood cells are the carriers of oxygen; allowing that these cells are diminished, it necessarily follows that increased respiratory efforts must be established, if the due oxygenation of the blood is to be maintained.

While the symptoms are supposed to relate to the lungs, the real seat of disease may be at the heart. To obtain a thorough knowledge of these changes, it would constitute the necessity of special practice in heart diseases.

The suggestion has been made that anæmia, not only causes the respirations to be quickened, but that hurried breathing induces at length poverty of blood.

The fact that housemaids, in the lofty houses of large cities, suffer thus, may perhaps, be explained on this view.

Tonics alone fail. Remedial when cause is removed.

It has certainly been found that steel alone fails to cure these cases; but when it is given during a rest of five or six weeks, then certain improvements take place; the patient herself, in describing her recovery, often states, "I seem to have more breath."

Anæmia the precursor of atrophy.

When anæmia is of long continuance atrophy generally sets in, together with dropsical effusions, dyspnœa, diarrhœa, and profuse sweating.

The pulse very frequently becomes weak and irregular; the heart's action is rapid and palpitating; and at times there are painful spasms and convulsions.

Dr. Watson on changes of the blood.

Dr. Watson, on changes in the blood, remarks: The composition of the blood cannot fail to be affected by a deficient supply of the elements of nutrition from without; by diseases of the digestive organs interfering with the process of chylification; by diseases of the organs of respiration interfering with its change from venous to arterial; by diseases of other channels of excretion, the bowels, the biliary apparatus, the kidneys, the skin, as I have already hinted, with regard to its appointed purification; by foreign contaminating matters finding entrance (as they may when in solution, or when in a gaseous form) through artery, vein, or any membranous substance, such as bladder and intestine: and lastly, the composition of the blood may be altered, as there is every reason to believe, by certain states of the nervous system.

Anasarca, when in relation to anæmia, or debility of the heart, the quality of the blood bears the all-important point for treatment, and not the kidneys as the basis of operation; and it must not be lost sight of that it is by the administration of such drugs and food that renew the formation of new blood, that the heart resumes its normal state. Thus the crassamentum, the serum, embolism, and other symptoms of blood-changing, must be carefully handled by gentle retraction, while active blood-making drugs are helping the heart to do what belongs to that organ.

This is no mean point for consideration when you find drugs have been administered to force the kidneys to pass off what belongs to the duty of the heart.

CHAPTER XV.

THE TREATMENT OF DISEASES OF THE HEART.

Theory and Practice—Contrasted—Disease from Different Sources may manifest Similar Symptoms—Strange Peculiarities—Remarkable in the Family—Heart relieved by the Skin—Knowledge of the Duties of the Organs of the Frame—Improper Exhibition of Alkali and Acids—Failure of Digitalis and Belladonna—Certain Drugs and their Value.

Theory and practice.

IT would appear that the marginal line drawn between theory and practice, is so clearly defined that the subject hardly requires any comment; but as the two are equally necessary, a few remarks may not be altogether out of place.

The theoretical wrangler considers that he is pre-eminent: he corresponds with a journal, he proves his assertions, he calls upon his confrères to bear testimony to the truth of his ideas. He is clever with his pen, and gives effect to dreamy thoughts and imaginary suppositions.

Contrasted.

While the plain drudging and hard working practitioner, who really does the work, is of small account in the eyes of the theorist.

The latter collects substance and materials; the former founds his reputation on the facts thus gathered, and dexterously twists them about as we may see a conjuror play with the golden balls; thus he has a large scope for experiment, into which an outsider will find it a difficult matter to intrude; as he makes theory take the place of practice. If our friend does manage to slide in edgeways he should make up his mind to be considered "small fry," in lieu of a "big gun."

Story of a chemical patent.

The following case may, perhaps, strengthen my assertion as to the advantages of a sound practical experience over mere theoretical qualifications.

Some twenty-five years ago an Austrian or Hungarian came to this country to sell a new patent for making sulphuric acid, and he was introduced to me by a

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Some twenty-five years ago an Austrian or Hungarian came to this country to sell a new patent for making sulphuric acid, and he was introduced to me by a patient, Mr. Brooman, at the patent office, Fleet Street.

Practice versus theory.

This foreigner had taken out patents for all Europe; and his mode of preparing the acid had been approved of by all the best-recognized Colleges of Chemists in Europe. These analytical chemists all expressed their approbation, and gave certificates to that effect. Moreover, it seemed that such a very large per-centage would be saved in the manufacture, that the clever inventor considered himself justified in demanding the very large sum of £60,000 for a royalty for the right of making it for this country alone; and so sure was he of succeeding, that upon my giving him an introduction to Mr. Paris, a sulphuric acid manufacturer at Battersea, we dined together at Verey's, at his expense. He paid six pounds and upwards for the dinner. That was confined to ourselves; and we jointly acknowledged innumerable good qualities in each other's eyes, which was followed up with sundry compliments.

Mr. Paris agreed to the terms of purchase, but upon the stipulation that his manufactory should be altered, and a considerable bulk made, so as to prove the advantages of the patent in a practical manner; but when this was done on a wholesale scale, it proved to be a total failure, and the result perfectly worthless; though the previous experiments made on a small scale were proved satisfactory in all the European Colleges. So, in the same manner, the good qualities we saw in each other's eyes entirely vanished.

Theory correct, failure in practice.

Now in this case the man's *theory* was in some respects, if not altogether, correct; though his *practice* was a lamentable failure; and this holds good in the practice of medicine; the drudging practitioner frequently is more useful and has a sounder knowledge of his work than the more brilliant theorist.

Reading and trying experiments.

You will tell me I am going a little out of my latitude in thus speaking so freely; but I am anxious to point out the necessity for practice, and that experiments should not be resorted to by this means, as nostrums for one symptom, and nostrums for another, without a systematic method of practice. It is equally absurd for the young practitioner to depend entirely upon reading, and coach himself (as it is termed) up to certain fixed rules and formulæ; as experience tells me that no legitimate rules are capable of universal application.

A man holding no mean position, said, that he would go down on his knees to see what was administered at the hospital for certain cases. He was gratified both by observation and lecture, and was then left to practice; but this mode of acquiring knowledge did not suit him; he preferred the cramming principle, and reading instead of practical knowledge and work.

Experience tells us that it is by the constant application to the special branches that a thorough knowledge of the profession is obtained.

By keeping the eye fixed on and accustomed to a good picture, we are able to recognize a bad one; it is equally so in discerning health from ill-health.

When this is thoroughly realized in our minds, when we have before us the Scotchman on his milk and oatmeal, the Irishman on his potatoes, or the Englishman, whom I once saw, who had been living with his family on swedes; when their healthful countenances are smiling upon us, then we may clearly define the difference between disease and health.

Disease from different sources may manifest the same symptoms.

Disease is a disordered state of the flesh; no matter what part, from a toothache, or hair falling off, down to inverted toe-nails—all derangements of the system are symptoms of disease—the greater and more complicated the symptoms the more serious is its nature.

The definition between one disease and another is only arrived at by the symptoms and appearances; and yet a disease may be contracted from various sources, and yet have the same resemblance. Thus in one family several may have different kinds of skin diseases—one may die from consumption, another from disease of the brain, a third may be liable to cancer.

Strange peculiarities.

A patient had two failings that amounted almost to insanity. Firstly, the whole of his time, money, and conversation was devoted to one channel, not usually recognized by the rules of society. It reached such an extreme that his opinions were found simply detestable. Secondly, he prided himself upon, and ground his teeth over, all spiritual and refined ideas. In his profession he was shrewd and remarkably clever; and were it not for the singular fancies, his circle of acquaintance would have been large, in accordance with his abilities.

The peculiarity of his constitution is this, and is worthy of some consideration, that it proves that one disease cannot be defined from another. He had upon one occasion a most violent skin disease; the flesh on one limb almost sloughed away.

Remarkable in the amily.

A sister died under an operation for a tumour. Two uncles died in a madhouse from religious mania; and his mother died of paralysis.

So that in these relations the same diseases generated, and exhibited themselves in various forms.

A patient may have skin disease, or blood poisoning, and it may be translated to the heart, and end in rigors or fits; and it may regain its normal state on the skin, and the circulation recover its equilibrium.

Cowpock or small-pox matter, or any other deleterious stuff may be inserted in the skin; it may not immediately produce any apparent dangerous symptom, but consumption, insanity, fits, or skin diseases might set up therefrom.

Heart relieved by the skin.

A patient suffering from an intermittent pulse and valvular irregularity stated that she suffered thus for months after vaccination; boils on the skin ultimately relieved her heart, but it was not until a superficial disease appeared that the heart resumed its normal state.

A patient may have rheumatism, then rheumatic fever, and ultimately dropsy of the heart. What, then, is the difference between one symptom and the other, so as to serve us as a guide with regard to the treatment without the *point de depart?*

It is the thorough knowledge of the constitution, and the primary nature of disease, that constitutes common sensible observation of symptoms, to form a sound basis for practice.

Many doctors may tell you more about obstetrics than I am able to do, others again about diseases of the eye, and the ear requires special study and practice; but they must and will all agree upon one point, viz.: that the basis for treatment depends upon the knowledge of the constitution; and that it is through this medium we must hope for success, and not by any one local process—especially in reference to those disorders in respect to which I have taken up my pen.

And I repeat that it is an error to adopt a specific nostrum for this or that symptom; such practice calls for marked reprehension in heart disease.

Belladonna.

Digitalis is spoken of as the opiate of the heart, and belladonna is universally administered for palpitation, just as nurses stuff crying children with sugar and sweetmeats. Regardless of the origin of the complaint, the immediate outward symptoms are assailed.

Palpitation, from debility and rheumatism is the principal symptoms for which these drugs are administered; they should, however, be clearly defined.

It thus proves that there are generally primary causes to be considered before the heart is approached, or cardiac medicines administered.

Disordered functions.

It would be useless to administer to the heart before ascertaining the healthful state of the skin, liver, nervous system, and secretions. It will be found that one or more of these constituents are invariably disordered; and the entire machinery of nature's engine requires lubricating, and when that is in smooth working order the heart's functions will follow naturally, or otherwise, when the heart becomes the primary cause of disease, other portions of the frame must become implicated.

Reckless abuse of life.

It is impossible to say whether or not in this enlightened age we have a higher knowledge of the art of taking care of ourselves, or if surrounding circumstances are favourable to a higher class of existence: but one thing seems certain that we abuse our constitutions more recklessly, if not in one form, in another; and it becomes one of the strict duties of all medical practitioners to impress upon the minds of their young patients to follow the dictates of common sense, and to live according to nature's ordinances, and within due bounds.

Knowledge of the

There is a limit to the work of all the duties of the organs of the frame.

organs of our frame; but it is an intimate knowledge of their duties, and getting the whole of them into one normal healthful state, that ought to be our object, and not selecting one of them, such as the heart, and attacking it with strong spirits, without ascertaining whether gout, rheumatism, or some suppressed skin disease may not be generating from the stomach.

In dwelling on the practice of medicine the special properties of drugs are, as a matter of course, considered a subject of such importance, with reference to their utility, that I would rather refer to their *in*utility, as being a subject of equal necessity for study.

Digitalis used unnecessarily.

Digitalis is used to tranquillize the heart, and act as a diuretic in pericarditis and dropsy, and in small doses it may be found useful; but then it is occasionally unskilfully resorted to where no diuretic is required, as in cases of palpitation from debility or rheumatic affections.

Failure of digitalis and belladonna.

If digitalis is an opiate of the heart, it certainly refuses to alleviate that organ when it is labouring to do its daily work; and belladonna, though it may be proud of its name and reputation amongst the female sex, yet when administered in similar cases, it fails to work as required and expected to do.

We must therefore seek cases suitable for the drugs as well as the drugs for the cases.

It is through the medium of the kidneys that digitalis is valuable as an assistant: and it is by referring to the condition of this organ that we may come to a conclusion whether it may or may not be useful.

If combined with supertartrate of potass, the combination is of some value in such cases. This salt is in constant use, and, besides, other therapeutic agents of a similar kind in the form of acids, such as the nitric, for instance, cannot be undervalued. The alkaline pharmaceutical preparations are of equal use; all of which are well known for their utility in similar cases, but few are aware of their *in*utility, and when they should not be resorted to; and yet my experience tells me that they are as often used for one case as the other, without any data to *draw conc*lusions from.

These acids will have a diuretic effect, and combined with potass, both may be used in the same case with good effect, and to all appearance they may be acting for a few days in the way required; yet, being persisted in, after a short interval they may result in generating an entirely new class of symptoms. Potass may act as an antidote for dropsy—some cases of dropsy may be generated from over doses saturating the blood.

Improper administration of alkali.

We may have before us a case where all the symptoms point to the primary stage of rheumatic gout, and the heart distended, the veins overcharged, &c.; an alkali may be administered to change the urinary deposits; and after a few days we are surprised to find the patient puffing up with anasarca, which may be the result of the salt being indiscriminately administered.

Of acids.

Again, you have a patient with the same symptoms of gout generating in the system, with the white furred tongue and gouty hands. You administer acids, and your patient, under a general combustion, to your astonishment, boils over.

Then upon what régime are you to

base a rule for practice? The acid and alkali are of equal value, and both in the same case. It might be suggested the use of the two in treating a patient, commencing with an alkali, and then reverting to the supertartrate of potass, without pressing your drug to extremes so as produce debility and anasarca: by this means many unhealthy urinary deposits may be dispersed.

But while we resort to these every-day drugs, there are yet many that we must not reject. Balsam copaiba, combined with the sp. ætheris nitrici, will occasionally be found far more efficacious in stimulating the action of the kidneys in anasarca when in relation to disease of the heart. And the peculiar action of these drugs, combined as a diuretic and purgative in such cases, I have, with much pleasure, drawn to the notice of Dr. Ridsdale, Dr. Vincent Ambler, Dr. Verley, and many other confreres attached to the hospital.

A grain of the chloride of mercu
with sugar on the tongue, or a few gr
of the pulv. Jacobii will tranquilliz

give a night's rest, where the digitalis and belladonna fail in palpitation with pericarditis.

Iodide of potass calls for notice, also to be classed as a friend, but it is the grain doses, as a rule, that assist us. Three to five grains set up an irritation, and we fail to recognize the cause. When administered with a bitter, it will be found of value in nervo-rheumatic affections of the heart.

A few grains of the ferri sulphatis, with liquoris potassæ, when the urinary and albuminous secretions are in relation to disease of the heart, may be found of use.

Eighteen years have now passed since I pointed out the error of administering opium and colchicum in diseases of the heart. It is a pleasure to find modern writers are borrowing the idea. Cases may be cited where it has produced some beneficial effects, but so many errors may arise from their injudicious administration, that extreme caution cannot be overestimated.

As we advance in years, we cannot do otherwise than allow that our ancestors knew as much, or equalled our mode of treatment, though perhaps their system was not quite suitable to this age.

The old-fashioned saffron and the leech held their place, while stimulants are the order of the day for all nervous affections.

Other drugs and their value.

Ether and ammonia are drugs of no mean value in heart diseases, and, like the former drugs referred to, are useful in cardiac affections, but beyond the stimulating effect are useless. Rather than have resort to them as a palliative, I would prefer to investigate more deeply the general condition of the system and laws of nature.

Iron, antimony, and calomel are all of considerable value in their proper places; but their virtue as remedies becomes absurd when they are tried as nostrums for every symptom.

A volume of itself might be written on the use of drugs and the treatment. This chapter must be resumed on some future occasion.

Thus we will "throw physic to the dogs," and resort to no more than we should like to administer to ourselves.

CHAPTER XVI.

BATHS AND OTHER THERAPEUTIC AGENTS IN THE TREATMENT OF GOUT AND RHEUMATISM, WHEN IN RELATION TO DISEASES OF THE HEART.

Turkish Bath—Suppressed Diseases of the Skin—Case of a Lady—Mr. Urquhart—A Case of a Lady of Seventy-five—Not Universal Panacea—Excitement of Heart — Secretions of Skin — Extreme Heat — Gross Constitutions—Gout relieved by Sweating—Dr. Leared —Animal Matter carried off—Copious Perspiration from Exercise—Cold Bathing.

Turkish bath as a remedial agent.

WHILE dwelling on the subject of treatment, it is highly important that some reference should be made to the use of the Turkish bath.

There are undoubtedly some constitutions where gout is feeding in the *veins,* and only lurks for a time, in order to betray itself in some ill-shaped form.

To compete with such an enemy some practical means must be resorted to, apart from the immediate action of drugs, more particularly when the constitution is not sufficiently active to invigorate the system, so as to cause a proper action of the skin, in such a way as to promote perspiration.

Suppressed diseases of the skin.

For instance, diseases of the skin may be suppressed by many simple errors, such as external applications, and result in an obstruction. The heart may be the sufferer, and end in epilepsy.

By relieving this organ with hot baths the heart may become tranquillized, through the re-appearance of the disease on the skin, or rheumatism which has passed up the sciatic nerve may be translated back again to the extremities by this means.

A lady suffering from blood-poisoning in the form of skin disease, and finding by chance that it was from eating lobster that the spots complained of made their appearance, an alkaline treatment was adopted with alteratives.

It was observed that when the spots were suppressed the equilibrium of the chest was deranged; and that it was by opening the pores that the chest became "cleansed of that perilous stuff which weighed upon the heart."

With regard to Turkish baths as a medium for opening the pores, the authority of Mr. Urquhart may be cited in an interesting book lately published on the subject.

In the main I quite agree with him as to the great utility of such baths; at the same time it might be suggested that such a powerful agent should not be resorted to without previous advice.

Mr. Urquhart.

He says, "I find that in the bath persons suffering from disease of the heart obtain instant relief, although the number of pulsations is increased. It may be as in the case of a steam-engine going down an inclined plane: the piston works more rapidly because the work is done for it. The skin comes to the aid of the heart and lungs."

"Again, in a very high temperature you lengthen your respirations. Up to a certain height you are oppressed, say at 110° to 140°.

"The sense of enjoyment begins to manifest at 155°, as if from that point upwards there was a relief afforded to the heart.[*] Now, as the object of the action of the heart is to bring back the blood, and to pour it into the lungs, in order that it may there lose its poison or carbonic acid, and regain new life, or oxygen, that is to say undergo the chemical operation of decarbonization: if that operation should take place partially throughout its course, and at the extremities, the heart by this chemical subvention is mechanically relieved. The counterpart of this reasoning explains disease, whether of the liver, the kidneys, the lungs, or the heart—namely, that the skin, being coated

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Relief of a lady of 75 years of age

[*] Apropos to this, a case is noticed in the same book, of a lady of seventy-five suffering for years from organic disease of the heart: so ill as to be able to find her way to the bath with difficulty, but there, after lying a short time in her hammock, she falls asleep, to waken free from pain and oppression; and she walks back to the house with a step more elastic than that of many younger women.

The tonic effect of heat in this case is remarkable. The bath never fails to restore strength, and is never taken under 140°: 160° being preferred.

with a varnish more or less impervious, the decarbonization of the blood does not take place so freely, and an effort is thus thrown upon the lungs and heart to drive it through, or upon the kidneys or the liver for the elimination of foreign matter, beyond what is allotted to them, and so being called upon for extra toil they are overpowered and become disordered. Weakness ensues," &c., &c.

Coincide with Mr. Uiquhart.

Thus far writes Mr. Urquhart; and to a great extent I cordially agree with him; but I am bound to say that the various changes which take place in organic derangements are such that to unduly excite the heart for any purpose or for any pretext is most unwise, and must be attended with considerable danger.

Baths highly valuable, but not universal panacea.

Still I consider that baths (both the Turkish, properly so called, and the ordinary), if judiciously administered, and not as a universal panacea applicable to every case, are most valuable in cases of heart complaints, especially when there is some disease of the skin, or any affections relating to gout or rheumatism.

Guard gainst ex-

But when valvular disturbances are

citement of heart.

exhibited, aneurism, misconstrued for debility or other ideas, or in some cases of regurgitation, intermittent pulse, or augmented palpitation from debility or fright, in such cases I say it would be highly incorrect to resort to the bath treatment without previously consulting a professional adviser. Mr. Urquhart has certainly enlightened our countrymen, and opened out a new field for practice; but practice in heart disease is a very delicate subject to venture upon, and should not be meddled with without great caution. Turkish baths produce heart disease as well as cure them.

To regulate the flow of secretions from the skin requires some knowledge, and his experience deserves our respect.

Secretions of skin, kidneys, and bowels.

Common sense and feeling will regulate ordinary ideas; and the secretions of the kidneys and bowels require but the same common sense, unless indeed they become diseased; then naturally some "experts" must be applied to, and drugs administered accordingly.

If hot or cold baths make the patient *feel faint*, or accompanied with palpitation, he should discontinue them; but in lieu thereof the skin's action may be greatly stimulated by rubbing and other frictions, with moderate exercise.

Extraordinary degree of heat.

The same rule may be applied to steam and all medicinal baths and vapourings for diseases of the lungs, and though these disciples seem to recommend extraordinary degrees of heat (as high as 200° and higher), and exposure to such an extraordinary temperature may have worked wonders in certain cases, yet I would certainly urge upon those who are unaccustomed to any one particular description of bath, not to be induced to try it because it is a novelty, or from mere motives of curiosity, to see what amount of heat their bodies can sustain; nothing can be more unwise than trying the heart with extremes.

Invalids not to use high temperature from novelty or curiosity,

or without advice.

Let me not be mistaken: hot baths, both water and air, may be used to very great advantage in the ordinary state of health, but on the other hand there are no cases that require more medical supervision than the treatment of heart disease *by* such therapeutic agents.

Cases of gross constitutions.

Great caution to be observed.

In gross constitutions, and in those where there is more than an ordinary amount of fat on the bones, Turkish baths* may be used with great advantage; but even here there should be a certain amount of discrimination exhibited; for there are some cases of a fatty character where it is generated in a short space of time, in which the blood and the functions of the circulating system appear to be materially implicated—the heart becoming exceedingly feeble, as if all the best of the blood went towards making fat.

The patient complains of affections of the chest, difficulty of breathing, and nervousness, and great depression; these symptoms may occur in a remarkably short space of time, until from a normal state of health and size, a patient will increase in bulk by fat alone, and thus every function of the heart becomes impeded.

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* Portable Turkish Baths have been introduced by Mr. Wyatt and Dr. ——. They hold out several advantages—viz., that while the heat is applied to the surface, the head may be kept cool, and thus it is less distressing to the heart—and during the time that the heat is applied, cold or luke-warm water may be administered in the form of a gentle shower throughout the *whole surface* while in an inclined or sitting posture.

Now I hold that in such cases as the above, not only Turkish baths, but all baths should be used with marked caution.

Gout relieved by sweating.

The influence of sweating in relieving, or even in preventing, gout, is most remarkable, and it appears probable that some unhealthy ingredient is by this excrementitious process discharged from the blood; a cretaceous-looking matter being usually contained in the cutaneous exhalations of gouty people.

I am tempted here to quote a few lines as to perspiration, from a clever lecture delivered some years ago by a strong adherent of the Turkish bath.

Dr. Leared.

"Perspiration may be divided into two kinds—sensible and insensible. Two and a half pounds is the ordinary amount passed off in insensible perspiration in twenty-four hours. This is about equal to the loss by an ordinary bath.

"The sensible perspiration is that which is got rid of by exercise, by the effect of certain medicines, by the Turkish bath and other causes. The insensible is that which we are not conscious of, but which is always going on, whether in the bath or not.

Animal matter carried off.

"One ingredient of great importance is carried off by perspiration, and that is, animal matter. Unlike the salt or the acetic acid, it is something whose nature we cannot accurately determine by chemistry. The nauseous smell from the bodies of uncleanly persons is due to this form of unhealthy secretions generated from some sluggish hepatic state.

"In case of people who are crowded together, especially if uncleanly and underfed, in unventilated houses or ships, it may take upon itself the nature of a ferment, and become the cause of disease.

Fevers produced by exhalations from the skin.

"Certain deadly fevers and dysentery appear to be produced by such emanations from the skin. It is even probable that unclean individuals originate, and then propagate, disease among the healthy.*

It has been calculated that the sweat

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* Hence the vast importance to the community of the Turkish bath—the only complete mode of cleansing the skin—since by it not its *surface* merely, but its *pores* are washed out. There are about ten parts of this animal matter in the thousand of perspiration.

ducts of the human body, if all united end to end, would measure eight-and-twenty miles! this may be at first inconceivable. Yet I think you will be able to understand it if you remember the close way in which these ducts are packed in the skin."

So speaks Dr. Leared, and I might say that I most thoroughly agree with him in every particular. It is only when ultra-enthusiasts insist upon the baths as a *universal* panacea that I step in and protest against this doctrine; and especially lift up my voice against its being recklessly made a remedial agent in the disease to which I have given my peculiar attention—this refers of course to disease of the heart.

Au reste, in a general point of view, the bath system has no greater admirer than myself.

Copious perspiration by taking exercise beneficial.

Cases have already been mentioned of gouty persons who have never failed to ward off a paroxysm of gout by taking such exercise, and clothing themselves in such a manner, as to produce a copious perspiration; and on this principle I would explain the great value which has been placed on exercise, and the remarkable and almost incredible relief obtained by riding on horseback in most chronic diseases. For this kind of exercise strengthens all the digestive powers, whilst it revives the natural heat by the continual motion of the body, and enables the secretory vessels to perform their functions of purifying the blood in the proper manner. Exercise, unless it is used daily, will do no service, for if it be interrupted at times, it will avail little in changing the constitution.

Sudorific medicines are also at times to be commended; indeed, those drugs which have the reputation of curing gout, seldom produce any good effects, without causing at the same time a more or less copious perspiration.

To this effect upon the cutaneous system are also to be ascribed the benefit of the warm bath, and of fomentations and poultices to the integuments of inflamed parts.

Cold bathing used with advantage.

As to cold bathing—cold water may frequently be used with great advantage, but *under such circumstances* much greater caution is requisite: cold swimming baths may be strongly recommended for young people, and all who are in ordinary health; but to those who are otherwise I must point out the error of shaking the nervous system by shower baths, just as if making a delicate patient gasp and pant for breath could do him or her any good; such extremes are most dangerous, and in constitutions where gout is lurking in the system, such cold ablutions to the extremities are apt to translate rheumatism to the heart or some other vital organ.

CHAPTER XVII.

FUNCTIONAL DERANGEMENTS.

Sympathetic, Functional, and Organic Signs—Auscultation—Nature of Complaint—Patients assuming to have Knowledge of—Nature and Phases—Sudden Death in Functional and Organic Cases—Heart Disease not necessarily Fatal — Quotation from "Lucian's Dialogues."

No branch of practice in the profession requires more care than giving a correct definition of the terms as stipulated above, while prescribing in consultation, though they may be mere medical technicalities, and may have become household words. **Inculcation.**

Every patient must needs have them at his tongue's end; and no one is more troublesome to deal with than a patient who assumes to know all about his existing or non-existing complaints.

He will thank God that his disease is not organic; or be equally grateful that it is functional; and perfectly satisfied with his own dictum that there is no one dangerous feature, refrains from further remedies.

It is far better to leave such patients in ignorance, than to let them go astray as to the meaning of terms, respecting the clear definition of which the profession even do not always agree.

For instance, a sympathetic swelling—a sympathetic palpitation—a sympathetic pain, may each be falsely considered by the patient as organic. The hair may turn grey. Strong passions and fear or love, are, as a rule, undoubtedly embraced within the meaning of this term.

Then, what is "sympathy?" Is it an undefined influence of the nervous system? Does it arise from this infinitely delicate structure forsaking its normal state? or becoming too sensitive?

Now we should be disposed to consider sympathy as being rather a sensitive or refined state of some portion of the nervous system:—the causes and results like all existing actions may be varied.

Sympathy may lead the heart out of

its normal equilibrium; and such irregularities may take functional or organic forms: let us consider in what way.

A husband or his wife may be of an anxious and fidgetty temperament; and while in the performance of various duties existing or supposed to exist, may keep the partner in a state of incessant turmoil. The one, forgetting the annoyance to which the other had been subjected, fancies that one, be it the husband or wife, must be ill; and doubtless is ill from sympathy; and thus through some communicative agency, certain distressing symptoms are generated.

The heart may become feeble: palpitation or some irregular action may set up from this exciting cause; and then it may be asked—are these symptoms sympathetic or organic, or both? So far as the temporary derangement of this organ may exist, it may be termed functional; but if the nervous medium that may have immediately caused this functional derangement be allayed, and a sound principle adopted as a curative agency *functional* or sympathetic deran will disappear, and the normal state will be restored.

Thus to confuse your patient with one term or the other is as useless as it is absurd.

As regards danger and instant death, in reply to an every-day question—an answer might thus be given. Organic derangements are not in reality so alarming; though they are universally looked upon by the inexperienced as the only cause of death arising from this class of malady. Thus a fright will cause aneurism, dropsy, abrasion of a valve, or even rupture of an artery, and so produce death by mechanical or organic means, directly by the influence of the nerve through the nervous system.

With ordinary care and medical supervision, a patient may live to a good old age, if the organic derangement be not permitted to go beyond the bounds at which medical skill may arrest its fatal progress; just as a cracked piece of china will live the set out.

But in many functional derangements (assuming them as such) the risk of life hangs on a more precarious tenure. As in gout, for example, a sudden change in the weather might induce a relapse; or diet, or some other aggravating medium might renew the functional disturbance.

Translatory disease, while acting in this capacity, may attack the heart, and impede its action as previously explained in a former part of this work, and its cause or medium might then be said to be functional, because such temporary irritation is capable of being again removed; but should death be the result in a direct form, the cause may be termed organic; though the indirect medium would undoubtedly be functional. Thus before making use of these definitions to a patient, think twice.

It is not infrequent for some organic derangement in the structure of the heart to last out a fair average life; while at the same time a functional cause may be the medium of death; so a patient may last many years, as the hinge of a door through all its creaky vicissitudes, may work tolerably well when carefully dled.

It is the return or relapse to the functional state that may lead to dropsy and other diseases; and thus become the cause for further and different treatment.

An organic derangement of the heart, as a badly set leg after breakage, may be disagreeable, as the leg is unsightly; but there is many a broken heart which will outlive a sympathetic, functional, or translatory disease.

It is not the heart that breaks the vital cord of life; but he who ties such a knot that unstrings the ordinary rules of nature.

Lucian dialogue between Mercury and Charon the boatman of the Styx.

Charon. "These things, Mercury, are very ridiculous."

Mercury. "Indeed, Charon, if we were to speak of such things according to their merits, they would appear supremely ridiculous. And especially the eager pursuits of mankind; in the midst of which, and their hopes, they take their departure, hurried away by death.

"For, as you know, he has many officers and messengers; such as agues and fevers, and consumption, and inflammation of the lungs, and swords, and poison, and judges and tyrants.

"Still none of these things enter into men's thoughts, as long as they live and do well. But the moment that any calamity occurs, they find out their mistake; and then it is 'Ah me! alas! alas!—oh, Heavens! woe is me,' &c., &c. But if during their lives they would think of the possibility of this event, they would live more happily, and be less tormented after death."

CHAPTER XVIII.

THE INFLUENCE OF CLIMATE AND ATMOSPHERE.

Atmospheric Effects on Chest Affections—Risk of Indiscriminate Change—Florida, U.S.A.--Certain Districts recommended—Peculiar Beneficial Effects of the Pine Forests—The Odour of Gas or Sea-weed, as a Curative Agent.

Risk of indiscriminate or too sudden change.

THE great facilities of changing climate afforded by the present age, is a powerful ally to the food and drug treatment, formerly the professional man's sole reliance.

Even within a given circle, various changes may be beneficial; but here, as in administering food, wine, or drugs, professional experience will be found of the utmost service in recommending the climate adapted to the peculiar phase of the complaint.

The too common practice of rushing

here, there, and everywhere in pursuit of health, listening to advice from sundry quarters, and yet adopting no steady, constant course of treatment, cannot be too strongly reprehended, and can only be excused by the patient's nervously anxious desire for restored health. I need hardly say that such a course of proceeding produces precisely the contrary effect.

With regard to this subject, my attention has been called to a few remarks from a brother professional in an extract from an American journal, and as the locality to which it refers is easily attainable, it certainly deserves some consideration. It states in effect that, "When patients come to Florida whose physical conditions warrant, under favourable circumstances, a reasonable chance of restoration of impaired functions, and arrest of diseased action, they derive decided benefit from an inland residence. The section of country to which I specially desire to invite and direct attention, is the *Central Pineland Regions,* of which

Florida, U.S.A.

Towns and districts specially recommended.

the towns of Gainsville, Micanopy, Ocala, and Brooksville are the centres. Situated as these points and their surroundings are upon the highest and driest section of the State, sufficiently removed from either coast to be beyond the effects of dampness, they appear to me to possess peculiar fitness to meet all requirements of climate that are to be obtained. We have here the healthful influence of that peculiar aromatic element proverbially prevalent in the air of turpentine countries, which I regard as not altogether mythical in its effects, for at least it is inviting for outdoor exercise and exertion, and thereby plays a very important rôle in my idea of the requisites for improvement. My observation has led me to believe that this climate is especially suited to that class of cases associated with organic disease of the heart; and to those in whom irritability or excitability of the heart's action exists, either as an anterior condition, or a developed result of lung affection. Those who are unable to live in high altitudes, consequently, will find great benefit here, for

Peculiar beneficial effect of the Pine forests.

Suitable for organic disease of the heart.

the country being level, dry, and not too much elevated, the circulatory apparatus is not subjected to the great disturbances induced by rarefied air."

This extract is well worth quoting; the subject is interesting, and deserves the attention not only of our brethren in the Northern States of America, but invalids on this side of the Atlantic may also derive benefit from the information.

The writer's remarks as to the suitability of a dry climate for the complaints alluded to, are admirable, and there is no doubt that the impregnation of the air with the scent peculiar to the turpentine-producing forests must be specially valuable as a therapeutic agent.

Air impregnated with turpentine as a therapeutic agent.

The all-important principle of seeking change in this hurried age has become so looked upon as a portion of one's life, that without it the profession and trades would come to a dead lock, and the functions of the whole frame are worked up to the highest pitch of propelling power, and in some diseases as a curative agent drugs could not take its place.

The hop fields in Kent were known to our ancestors for producing a marvellous reaction to the degenerated frame; the quieting and soothing properties of the hop was not confined to the flower, but the air appeared to retain many of its properties. Thus the odour by inhalation was thought to have some benefits.

Tan-yards have likewise had their fashionable day; and since the fumes of gas by many are thought to have some peculiar properties; and the sea-shores, where the sea-weed abounds, many seek in preference to other localities.

Certain odours have stimulating effects, and are to some agreeable, while to others disagreeable. As the change of food, the stimulating properties all take part in this marvellous construction. It is to know when and where to seek it.

A patient writes that the sea-shore at Southend is detestable from the smell, but he returns improved in health.

Many patients from the country find some beneficial effects of smoky London. Thus it would appear change of diet, re-

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L683 Spratt, E. 67052
S76 Gout at the heart.
1875

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